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Excerpts From Testimony at Damage Hearing of Gene M. Woodfin

[Tr. 6838] * * * Mr. Sonnett: I understand, but I propose to spend a little time on this.

Q. Under the heading "Jet Aircraft," it reads:

"TWA's major U.S. airline competitors have announced that they have ordered jet aircraft for delivery beginning in 1958. The cost of jet aircraft will greatly exceed that of the latest models of piston-engine aircraft (although they will have greater speed and capacity) and their use will require substantial investments in ground equipment and will pose major problems relating to operations, traffic control, maintenance and airport availability.

"TWA has placed no orders for jet aircraft, but its management believes that it will be necessary for TWA to operate such aircraft if it is to maintain its competitive position and that the cost of the required aircraft, spare parts, and engines will exceed \$320,000,000. Accordingly, TWA is making plans for the operation of Boeing 707 and Convair 880 jets.

[Tr. 6839] "Hughes has placed orders, under contracts assignable to TWA, for 15 Boeing 707-131 aircraft, 18 Boeing 707-331 aircraft, and 30 Convair 880 aircraft, for delivery beginning in 1959. These contracts are subject to modification as to number and model of aircraft covered and as to specifications of the aircraft, including seating capacity. Hughes is not committed to sell any of these aircraft to TWA, nor is TWA committed to buy any of them from Hughes. Any such transaction between TWA and Hughes requires approval of the Civil Aeronautics Board.

Woodfin—Cross

"One of TWA's competitors is operating turbo-prop aircraft and others have ordered such aircraft. TWA has not ordered such aircraft, but is considering these and other types of new aircraft for future use."

Assuming those statements set forth in the registration statement or prospectus were correctly made, would you have advised TWA at the time to engage in the financing which, in fact, it did engage in in 1957?

A. Well, if I may say so, the financing in 1957—and I don't know that this question has ever been put to [Tr. 6840] me, but the purpose of the issue appears in the prospectus. It also appears in the digest and DHR Trans World Exhibit No. 7. This money was to pay for planes, the Lockheed 1649 and spare parts, which it had, and to pick up some additional bank borrowing on money that it had to have at that time.

This was not intended to be a financing to cover \$320,000,000 worth of jets. They were on order—I would judge from what I read here that they were using the Hughes Tool Company credit to get a place in line to have these planes ordered.

And I would not necessarily have advised any financing at all at that stage of the game if Hughes was content to pay the down payments which I think run about 10 per cent of the purchase cost on these over a period of time until, as the pressure got a little stronger for Hughes Tool Company, you could hope to have a better climate for financing.

Mr. Morehouse didn't want to do any financing during this period of time either, and I don't think I would have in 1957.

Q. So that, in your opinion, the financing in June of 1957 was not in the best interests of TWA and you would not have so regarded it at the time?

Woodfin—Cross

[Tr. 6841] A. I didn't say that, Mr. Sonnett.

I said they had to have that financing—they were in trouble—to pay for their 1649's.

I thought you asked me and I apologize if I misunderstood, if I would have advised them to have done a financing which would contemplate the financing of \$320 million of jets in 1957. I did not intend to say that it was not necessary to have the financing of the some \$43 million at that time to pay for planes that they had and were receiving.

Q. If you would assume, Mr. Woodfin, that every statement of fact set forth in the prospectus before you had been true, would you have advised TWA to go ahead with this financing in June of 1957?

A. I don't think any of those facts set forth there would be germane to the problem of whether or not you needed the money to pay for the airplanes. If they take the airplanes away, you had to do something. You didn't have bank credit. You would owe the bank \$55 million. You would come to a point where you had to do some financing.

The principal shareholder says, "I will put my money out." The minority come along. I think this is one of those times you reach when you've got to put the [Tr. 6842] money up.

Q. Are you saying that the decision would have been made by Hughes and not by the management and that you had to accept whatever decision Hughes made?

A. Well, I'd say this: I'd say that, if the management decided it wanted to have this offering and they talked to Mr. Hughes, who owned—and let's assume the most independent, competent management you want to assume, but we've still got to make some assumptions about ownership, and, if he says, "I am not willing to subscribe to my part of it," I don't think you could have done it.

Woodfin—Cross

[Tr. 7200] The Special Master: I believe you intimated before leaving aside any question of motives, that the program of financing that was actually carried out by TWA is a reasonable one within—while men might reasonably have differed whether to do some of this in 1955 or 1956 or 1957, that even in retrospect, the actual financing program was within the realm of good business judgment.

[Tr. 7201] The Witness: If Hughes hadn't been there they would have been in serious trouble, because they ran into deep operating troubles starting in—I don't know whether it is operating trouble. But they started losing money.

You see, the start of 1955—1955 was a bad year for TWA. They were down from \$10 million earnings in the previous year to the \$5 million at the end of 1955, and each quarter was getting progressively worse in comparison to the preceding year. Contrary to American, Pan American and United, they lost money in 1956. The other companies made money in 1956. They lost money in 1957. They lost money in 1958. It wasn't until 1959 that they started making a little money again.

By this time, of course, their chances of any big equity financing other than with Hughes' help or any big borrowing had disappeared and continued to be more difficult to do from the very date that they had the May financing or June financing, whenever it is—it doesn't tell us precisely—in 1955, because the market went down like a rock from then, from then on down the road, and their earnings went down.

• • • • •

Woodfin—Cross

[Tr. 7259] * * * Q. Addressing ourselves again to page 21 of your report, the last sentence of the paragraph, the first paragraph under (e) reads:

“Mr. Morehouse is assuming, contrary to our view, that the common stockholders would double their holdings in TWA when they could at best expect only a nominal rate of return for the foreseeable future.”

Bearing that in mind,—

[Tr. 7260] A. I mean by “nominal rate of return,” of course, TWA was paying no dividend. This was a nominal rate of return on the additional equity that was invested.

We would assume they would put it in tax—in government notes or short-term governments or something so they could get some return on it.

The Special Master: It would be the corporation that could only expect a nominal return?

The Witness: Yes, the sentence is poorly drafted.

By Mr. Sonnett:

Q. With respect to that statement, let us consider the 1957 TWA common stock offering. That was a one-for-one offering, I think, as we have already established, was it not?

A. Yes, completely underwritten by Mr. Hughes when the company was in dire straits for money after loss years 1956, 1957, and in a very bad year in 1957.

Q. The subscription price of the 1957 offering—

A. \$13.

Q. (continuing) —13 when the market was 14—

A. That's correct.

Q. (continuing) —what better expectation could the stockholders of TWA have in 1957 than presumably they had [Tr. 7261] or would have had in 1955?

Woodfin—Cross

A. Well, they would have had very little, except they were getting much closer to the jet age. At that time they had the equipment to pay for which they had on hand. There was a very definitive use for the money. And I am sure it was an unhappy financing. It is not one that one would have wanted to undertake, unless it was required.

Q. Do you recall the number of shares of the 1957 offering which were made available to stockholders other than Hughes?

A. Well, I can't tell you precisely, but it was—Hughes at that time owned about 74 per cent, as I recall. So it is about 25 per cent of 3.3 million.

The Special Master: Was your question offered or taken up?

The Witness: Offered.

Mr. Sonnett: Offered.

By Mr. Sonnett:

Q. Our figure is 860,894 shares were made available to stockholders other than Hughes.

Do you know how many of those shares were subscribed for by others than Hughes?

A. Well, approximately three-fourths.

[Tr. 7262] Q. About 75 per cent, then?

A. That's correct.

Mr. Sonnett: Would you mark this—

The Witness: 75 per cent of the 25 per cent.

Mr. Sonnett: Correct.

Will you mark these two letters, one July 9, 1957 of TWA to the Hughes Tool Company, and the second July 11, 1957 of the same subject matter to the New York Trust Company as the next exhibit, A and B?

Woodfin—Cross

(Letter dated July 9, 1957, from TWA to Hughes Tool Company, marked TWA Exhibit 267A for identification as of this date.)

(Letter dated July 11, 1957, from TWA to New York Trust Company, marked TWA Exhibit 267B for identification as of this date.)

Mr. Sonnett: I will offer these in evidence.

Mr. Leisure: I will object to them, until there is some questioning that would indicate their relevance.

The Special Master: I think they are relevant. I will admit them.

[Tr. 7263] (TWA Exhibits 267A and 267B for identification received in evidence as of this date.)

By Mr. Sonnett:

Q. Referring to 267B, you note the statement therein, do you not, that:

The Hughes Tool Company had purchased 45,917 shares of the common stock. This was out of the portion made available to stockholders other than Hughes and not subscribed for by Hughes.

Is that correct?

A. That's true, plus the 170,900 shares which Merrill Lynch bought for their account.

Q. Is it your understanding of the 1957 TWA financing that the Hughes Tool Company was required to purchase those 45,000-odd shares?

A. I'd have to look at the prospectus again. I don't believe they were, but I'd like to see the prospectus.

Q. That is Exhibit 194.

A. They had to provide them with a minimum of \$34 million. And I—and they had purchased the \$34 million

Woodfin—Cross

minimum. The 45,000 shares they didn't have to pick up, if they didn't want to.

The Special Master: That is the way I [Tr. 7264] read it.

By Mr. Sonnett:

Q. Do you know the number of shares that Hughes purchased through the exercise of rights which he had purchased on the open market?

A. 170,000 shares, I would presume.

Q. 170,900?

A. 900 shares.

Q. Is that about right?

A. Yes, sir. I guess that—that's the only way I know he could have gotten them. Merrill Lynch bought the rights and that would account in my mind for the offering being as well subscribed as it was because it gave the rights some value.

Q. Was he obliged under the financing to purchase the rights?

A. Well, he was obliged to buy \$30 million—up to \$34 million worth. Which way he chose to do it, Mr. Sonnett, I wouldn't want to comment on, because whether that would encourage other people to come in or not it was probably helpful. Certainly they were unexercised rights that he had to pick up or could pick up in addition to that.

Q. Could, not that he had?

[Tr. 7265] A. That he could, yes, 45,000. Nobody was knocking the door down to take it all.

Q. That was not surprising in light of the then financial situation of TWA in 1957, was it?

A. No, it wasn't at all.

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**Excerpts From Testimony at Damage Hearing
of Nathan S. Simat**

• • • • •

[Tr. 7537] • • • Q. Are you a member of any professional society exercising disciplinary supervision over its members?

A. There are various professional societies to which I belong, which exercise a small measure of disciplinary control over the members of the society, but I would not say that I belong to any society that has either licensing practices or an examination practice or anything of that character.

Q. What professional societies do you belong to, Mr. Simat?

A. American Economic Association, American Statistical Association, Institute of Management Sciences, several others.

Q. Are there any others that you regard as relevant to what you are doing here?

A. Yes. I belong to a Regional Planning Association which I think covers the same kind of transportation matter that is generally covered in this report. • • •

[Tr. 7708] • • • The Special Master: Are we ready, then, to go ahead with Mr. Simat's cross-examination?

Mr. Hayes: I suppose the first step here—

Mr. Tenney: Is to move to strike it.

Mr. Hayes: (continuing)—would be to substitute the corrected pages which have been supplied for the pages in the exhibits as originally presented. That is Exhibits 271A and B for identification.

Simat—Cross

All of the material that you required Mr. Simat to present has, according to Mr. Tenney's letter, been transmitted to plaintiff's counsel, and in view of the corrections, I think the best procedure would be to consider the corrected pages substituted for the original pages.

We have submitted the corrected pages. None [Tr. 7709] of us, including our own office, has a copy of the report with the corrected pages in lieu of, and we will endeavor to get copies for your convenience whereby you will be able to tell at a glance what the original page was as well as the corrected page. We just didn't have the time to get that out before this morning.

The Special Master: On that you are now offering—

Mr. Hayes: To substitute corrected pages for the pages in the original report.

The Special Master: It will be received on the same basis as the original submission.

Mr. Tenney: Mr. Brownell, may I be heard on that?

The Special Master: Yes.

Mr. Tenney: As I stated in my letter to you, which defendants received a copy of on Friday, we wish to renew our motion to strike the original report, in which case there is no point in receiving these changed pages in evidence.

I might start out by saying we disagree strongly with Mr. Hayes' statement that we have been given what you said we were to be given.

[Tr. 7710] In aid of that motion, I would like, first, a little additional voir dire of Mr. Simat, if I may.

The Special Master: You may proceed.

Simat—Cross

Mr. Hayes: I might call to your attention the sentence in your letter to the effect that in the course of the following weeks, most, if not all of the material necessary to understand the data used and the nature of the computations was finally made available. I am taking you at your word.

Mr. Tenney: I will explain that, Mr. Hayes.

Voir Dire Examination

By Mr. Tenney:

Q. I imagine you realize, Mr. Simat, that you are still under oath, although you have not been resworn.

A. I understand.

Q. You will recall your testimony in this hearing on July 24, 1967. That was the day when I examined you on the format and preparation of this report, Defendants' Exhibits 271A and 271B, which I will call your report, and I moved to strike it.

In recalling that testimony, do you wish to change any of the testimony which you gave that day?

[Tr. 7711] A. No.

Q. Specifically, you testified extensively that as source material for your report—and I am talking about the report as it was originally filed—not about the report as you have now changed it—you testified that as source material you used TWA's employees' timetables, which are already in evidence in this proceeding, corrected from certain filings with the CAB called transmission sheets, and you expressly stated that you did not use the Official Airlines Guide. Citations for that are 7538 and 7542.

Do you recall that testimony?

A. Yes.

Q. Do you wish to change that testimony?

A. No.

Simat—Cross

Q. Another specific instance, you testified quite extensively about the so-called SLURP program and you testified that this was used at Operations Research, Inc.—we have called it ORI—and you were quite explicit about that.

Do you wish to change that testimony?

A. I have since determined that Operations Research used not the version of the SLURP program that I thought they were using, but a canned program which they obtained [Tr. 7712] from IBM, which they had modified to include certain features of the SLURP program. So I was mistaken in that respect.

Q. Would you care to give us the title of that canned program?

A. No, I don't have the title of the canned program. I will be glad to furnish it to you.

Q. You also testified rather extensively towards the end of that day that these operations were performed either under your—

The Special Master: Read the citations for that last point into the record also.

Mr. Tenney: It was explicitly covered at the pages following page 7544.

The Special Master: Thank you.

By Mr. Tenney:

Q. You also testified towards the end of that day that these operations were performed either under your supervision or by others with careful checks being made by you.

For example, you talked about some hand-checking of the computer work which I had the impression you performed personally.

A typical example is at pages 7670 to 7672. I [Tr. 7713] think there are others.

Simat—Cross

Do you care to change your testimony on that?

Please remember, I am talking about your report as it was originally filed, not as it has been changed or your trying to change it now.

A. I frankly am not aware that I testified that I had performed hand calculations personally. Hand calculations were performed by my organization.

If I testified to the effect that I personally performed the hand calculations, I may have overstated my exact role.

I did perform some hand calculations, yes.

Q. First I would like to pursue the question of the Official Airlines Guide and the employees' timetables.

Mr. Simat, I have here—and I would like to go over in as much detail as is necessary to make my point, but I don't think it will take a great deal of detail—the employees' timetables effective January 10, 1961 for TWA, a copy of the Official Airline Guide, showing the January 1961 timetables for TWA, and I would like you to look at Table I, Book 1 of your computer printouts and find what you have given us as the January 1961 timetables for TWA schedules.

This is one that we looked at as a spot check.

[Tr. 7714] I would like you to examine them and see if you can determine whether that schedule was taken from the employees' timetables or from the OAG.

I think you will find, because of the Convair 880 schedules in January of 1961, that it quite clearly was taken from the OAG.

A. Excuse me. May I have the flight number read back again, please?

Q. Any Convair 880 flights.

A. Any one?

Simat—Cross

Q. Any Convair 880 flights, or all.

A. What the comparisons indicate, that while there is no Convair 880 flights shown in the Official Airline Guide, there are Convair 880—Convair flights shown in the employees' timetables and there are no Convair 880 flights shown in our schedules here.

[Tr. 7715] . . . The Witness: May I point out in this connection, Mr. Tenney, that we have on re-checking the schedule information transcriptions, found many errors and that we have, in fact, corrected these errors, we believe, in our most recent runout of the schedule information.

And you will find in the revised data that information for the Convair 880 schedules in this period is reflected.

[Tr. 7716] By Mr. Tenney:

Q. I am exploring the question of what your source material was for your original report that you testified to on July 24th, Mr. Simat.

A. Let me make this clear again, Mr. Tenney, that our instructions were that the final source of all schedule information was the employees' timetable.

This was the source to which all information was presumed to have been checked before it went into published form.

Now we have found many errors, and apparently these are included.

But let me also point out to you that before publishing our previous report that we made every effort to ascertain whether the errors in the schedule information were consequential and our test checks indicated that the information that we had transcribed if it was not entirely accurate

Simat—Cross

was nevertheless very close to the actual experience of TWA, and that revision of the information would not result in any material changing of the findings and conclusions.

Mr. Tenney: We selected January of 1961 as a spot check, because it was a logical place to expect a difference between the employees' [Tr. 7717] timetables and the OAG, because it was not until the end of December 1960, that the defendants released to TWA any of the Convairs that they had been holding up before.

When they were released it was necessary to take urgent action to schedule the planes and naturally the timetables were produced as fast as possible for the employees. The OAG of course has a lead time. So that we could check out—and it is perfectly apparent that the OAG was used.

I would like to have this document—

Mr. Hayes: May I move to strike the sort of argument. If Mr. Tenney has any questions to address to the witness I think he should address the question and confine himself to the questions.

The Special Master: You may proceed.

Mr. Tenney: I would like this document which was received on July 21st at 4:30 p.m., that is, the Friday immediately before Mr. Simat's previous appearance here, with a very limited group of work sheets that were then produced for us—I would like this marked as TWA Exhibit 318 for identification. It consists of 25 pages.

[Tr. 7718] . . . Q. I show you TWA Exhibit 318 for identification and ask first if you can identify it as a work sheet produced by your office.

A. Yes.

Simat—Cross

Q. Will you look at page 2 of TWA's Exhibit 318 for identification and read into the record the first two sentences, please?

A. "The purpose of this task is to prepare the schedules of Trans World Airlines for analysis by a computer. The necessary information will be taken from the Official Airline Guide."

Q. Do you wish to change your testimony as to the source of the information contained in your report as far as schedules go as it was originally submitted in this proceeding, Mr. Simat?

A. No, I do not.

This document was prepared at a very early stage. It is essentially an internal document prepared to train people who had no prior experience with the transcription of schedule information to correctly transcribe schedule information.

[Tr. 7719] We were at that time using for illustrative purposes the Official Airline Guide because we had only a limited number of copies of the employee timetable information.

The entire set of instructions is cast in terms of Official Airline Guide information which is in the same basic format as employee timetable information.

The analysis that was prepared was to be checked and ultimately conformed to the employee timetables, and this is why we give the employee timetables as the source of the information.

The correctness of the information is to be determined by comparison with the employee timetable and not with the Official Airline Guide.

That is the statement that I am making and that is the statement that I wished to make earlier. All of the schedule data were to have conformed by my instructions with the employee timetable information.

Simat—Cross

And I might point out in this connection that it is not only true of the schedule information but also it is true of Form 41 information, that is, financial data, obtained for TWA that we had at intermediate stages from time to time used the ATA statistics for transcribing Form 41 information rather than the Form 41 reports.

[Tr. 7720] And the reason for this is that the Form 41 reports as available to us were in such terrible condition that we were not able to work with them on a day to day basis but again the instructions were that after all of the transcription work was done, the information was to be checked back to the Form 41 reports which is the ultimate source of the data.

So that then becomes the source of the report.

I do not regard the Official Airline Guide as the source of the schedule analysis and the employees' timetable is the source of the schedule analysis.

Q. We have here a copy of instructions by your office that on their face direct the key punch operators to use the Official Airline Guide?

A. These are not instructions to key punch operators. These are instructions to our own people for the transcription of information from a schedule to a work sheet which is then submitted to the key punch operator for key punching.

Q. Have you any copies of instructions to your people calling for using the employees' timetables? I seem to recall that you testified that no copies of that sort of instructions were retained.

A. We do not normally retain copies of instructions, of this sort.

[Tr. 7721]

Simat—Cross

It was by digging back through our files that we found that we had an instruction manual in this degree of detail. The reason for preparing such a detailed instruction manual is that we were in fact dealing with inexperienced people to whom a few oral instructions would have meant very little.

Q. Are you aware of any instance in which the OAG differed from the employees' timetables during the period 1959 through 1963 in which your Table 1, Book 1 of your original computer printouts used the employees' timetable and not the OAG?

A. No. I haven't made the complete check or comparison between the OAG and the employees' timetable.

Mr. Tenney: Neither have we but we made a spotcheck and the results of the spotcheck are now on the record.

I offer in evidence TWA's Exhibit 316 A and B, 317 and 318 for identification.

The Special Master: In the absence of objection they will be received.

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Q. You have indicated, I believe in an earlier [Tr. 7722] statement today, Mr. Simat, that in the course of rechecking your work you found a number of errors.

I assume that those errors are the basis of the corrections that have been proffered by Mr. Hayes this morning.

A. That is correct.

Q. When did you start finding out these errors, Mr. Simat?

A. We had actually instituted check procedures even before the submission of our first report. We were handling a great deal of information in a very short space of time.

Simat—Cross

While we were employing checking procedures that we had every reason to believe would detect any substantial errors in the results, we were not sure at any point up to the submission of the report that we had correctly entered all of the detailed information.

For one thing, as I mentioned earlier, the status of the source material is exceedingly poor. In working with the Form 41 data for example, we were working with copies of copies. The original work sheets, I am sure was a carbon copy to start with.

We found that a number of numbers were totally undecipherable. We found in other cases that there had [Tr. 7723] actually been slippage of lines, wherein the alignment of the figures and the stub were not entirely correct.

And then there were cases where we just simply had to throw up our hands in despair, we just couldn't make out the figures at all.

The employees' timetable information was in similar shape. We were working with reproductions of reproductions and the information was very difficult to read.

We also had a number of relatively inexperienced people transcribing the information. That is the reason for the detailed manual which we do not normally prepare in connection with the schedule transcription work that we do internally. Because of the necessity for compiling the information quickly, we had to bring in people on a temporary and part time basis to actually do the transcription work.

Now, none of these circumstances is conducive to 100 per cent accuracy.

So while I knew of no specific errors at the time that we submitted our report, I was ready to wager that there were a number of errors in the basic information.

Simat—Cross

We were also compelled by pressure of time to [Tr. 7724] introduce checking procedures which were not 100 per cent satisfactory in disclosing all of the errors.

For example, in checking the schedule information, we used a sampling procedure wherein the work product of individual personnel was checked, spot-checked. If an error was found, that particular period, whatever it might be, was redone. There were some periods that were redone two, three times until we were satisfied that we had them reasonably accurate.

On a sampling basis of course, there is a certain amount of error that will get by undetected.

This was true both of the schedule transcription data and also of the cost transcription data although it was essentially true we kept our more experienced people on the cost data rather than the schedule data.

Q. Mr. Simat, I am asking you simply when you started the process of discovering these errors and making this revision? You have given us Thursday night 311 revised pages which we count as making 5,945 corrections.

We are advised that all 14 volumes of the computer printouts—that is one set—if you add that one to it it is one set—that we have been working on for two months have been rerun.

[Tr. 7725] When did it come to your attention, Mr. Simat, that you should commence this revision?

A. I have been trying to explain, Mr. Tenney, that we have felt all along that further checking procedures were required and that if we had the opportunity to perform the further checks and to introduce somewhat more accuracy into the calculations and into the basic data that we work from that we would.

The checking procedures were initiated before the publication or before the submission of our previous report. We

Simat—Cross

have been working on corrections on checking from that point forward.

We have found it necessary to put aside from time to time our work on the corrections in order to progress in other areas.

I might point out in this connection that for almost the entire month of July and a good part of the month of August we were busily producing information in connection with the original report, answering questions, compiling the basic reports, making sure that everything was appropriately cross-referenced so that the understandings as to what went into the original reports would be complete.

We were also proceeding during this period in [Tr. 7726] the preparation of our critique on the aircraft disposition program. This, too, consumed a good deal of the time and effort in the shop during the months of July and August.

We have also at the same time been proceeding on what I now call Phase 2 which is the more detailed approach that I previously outlined. And as you know, we encountered quite a few difficulties in obtaining the basic information. We have had people working on the sample forms, cataloging the information that was submitted.

We are progressing as fast as we can in that area. And all of this has taken time away from the checking procedures. But we have been progressing in that area.

In July, early July, we hired largely for this purpose, I might point out, Mr. William Wolf, who was formerly a director of scheduling for Pan American. He has been spending virtually full time reviewing the schedule data.

The Special Master: Is any further checking going on now which might result in additional modifications?

Simat—Cross

The Witness: Not of the original report, no. We have completed all of the checking.

[Tr. 7727] Q. While you were preparing all this information which you were talking about in answering questions on the original report, supplying cross-references, telling us how it was put together—which parenthetically of course you knew was the result of the correspondence that defendants' counsel and we were engaged in throughout this period—why did you not at any point inform us that a major revision of that report was under way?

A. Well, for one thing, Mr. Tenney, I do not believe that the revision is a major one.

The errors that we have corrected while they are numerous are relatively insignificant. The final results have been barely changed.

Unfortunately, the method of estimation that we used is a chain method wherein if the first number is changed, virtually every number from that point forward is changed.

But all of the changes with one or two exceptions have been very, very minor. They have not as was pointed out in the letter of transmittal significantly changed our estimate of the profit and loss from the added jet services. We are within 2 per cent or approximately 2 per cent of our original estimate.

The Special Master: Do you agree to that [Tr. 7728] conclusion, Mr. Tenney?

Mr. Tenney: I believe that he has adjusted his end results so that they are a small number of percentage points worse from the TWA standpoint. I have no means, none whatsoever, of having an opinion based on checking as to the remainder of his statement, but I doubt it very much.

The Special Master: What's running through my mind is if the changes are all insignificant with pos-

Simat—Cross

sibly one or two exceptions, which I understood you to say, whether we could not have those one or two exceptions and disregard the insignificant changes in the interest of saving time here without producing significant results.

Mr. Tenney: I would be surprised if Mr. Simat would be willing to stand on the mish-mash of his original report, frankly. * * *

[Tr. 7883] * * * Q. So Table 8A, which is jam-packed with things like that—I have a list here five pages long—Mach 3 speeds and so forth for marginal speed for 880 aircraft and other early jets—Table 8A should be disregarded, is that correct, Mr. Simat?

A. Well, I certainly didn't rely upon it. If there is some other use you can see for the information in Table 8A, the information is there, but I would certainly not rely on it for any estimating purposes.

Q. Then let us turn to Table 9 in the same volume. This table is headed "Operating Statistics of Added Flights."

I take it that this is a table that you did rely on, is that correct, Mr. Simat?

A. Yes.

Q. Let us turn once again to the CV-880 aircraft, which, once again, is the first jet aircraft type.

The Special Master: Table 9, is it?

Mr. Tenney: Table 9, yes.

Q. Let us take a look at June to July of 1962 in that table, and if you carry it over to the extreme right—[Tr. 7884] hand column, you find the average block-to-block speed of added trips, and I find that the 880 aircraft was then traveling average for additional flights 1.11 miles per hour.

Is that a figure that you should pay much attention to in considering added flights, Mr. Simat?

Simat—Cross

A. I certainly wouldn't pay much attention to it.

Q. What really was the normal cruising speed, approximately, of the CV-880 aircraft?

A. Oh, it's about 475 miles an hour.

Q. From February to March of 1962, it seems to have been going 177.07 miles per hour. That is pretty near stalling speed for it, isn't it?

A. No. Let me point out to you that we are talking about block-to-block speeds, and block-to-block speeds are computed by dividing the miles flown by the block-to-block time.

There is in every flight profile, as you know, Mr. Tenney, an ascent and descent factor. There is also a taxiing factor. There is also a waiting time. And it is quite conceivable that speeds as low as 30 miles per hour are flown by jet airplanes, when they are flown over short distances. And the bulk of the time in-flight is consumed in getting up into the air and coming down or [Tr. 7885] flying around in the air, but not in cruising.

So I can point out to you that it is faster to fly over a distance of 30 miles with a DC-3 airplane than with a Boeing 707 jet. Over such stage lengths, the block speed of the Boeing 707 would be slower than the block speed of a DC-3.

Q. By the way, I show you, Mr. Simat, Vol. I of the Coverdale & Colpitts report, which is TWA 4C-1.

On page 2, you will see some cruising speed information as to different types of jet aircraft. I think you will find that the CV-880 is shown as having a cruising speed of 615 miles per hour. I think you said it is someplace in the 400s.

Would you care to change that?

A. Yes, I will change that. I think I was thinking in terms of average speeds.

Simat—Cross

Q. Since we are dealing with block-to-block speed, which might well be lower than cruising speed, would you turn to the next table which is "Aircraft Type B-70," which is the symbol for the 131 aircraft, and look at November to December of 1963, and look across at that same average block-to-block speed?

The 131 was averaging a block-to-block speed of 1745 miles per hour. Would that be explained by the [Tr. 7886] flight profile, Mr. Simat?

A. Yes, in fact, it would.

Bear in mind, Mr. Tenney, I think you are forgetting that we are dealing with differences, the differences between the number of flights operated in one month and the number of flights operated in a second month, differences in the number of hours per day that aircraft are operated and differences in the number of miles.

In both examples that you have selected, you will note that the number of added departures per day were quite small. We were not dealing with any material volume of added operations, and—it is possible, conceivable that where a change in operations involves the substitution of operations to and from terminal areas where the waiting time, the taxiing time, the ascent-descent time, the congestion factors are less than they are at some of the more highly congested terminal areas, that we will get changes in the number of hours per added operation which we divided by the—or divided into number of added miles per added operation will provide block speeds of 1745 miles or even something perhaps slightly larger.

However, these do occur in a distinct minority [Tr. 7887] of cases. Over the entire period, I think you can count on almost the fingers of one hand the number of cases where the block speeds are that unusual—the computed added block speed, I should say, is that unusual.

Simat—Cross

It will happen. It happens arithmetically. If I can give you another contrived example: if we were to add a fraction of a flight in New York where the terminal time is very high, we would get under such circumstances or tend to get, I should say, very low added block speeds.

On the other hand, in adding fractions of flights to points such as Fresno, where the congestion factor is very low, we could very well get block speeds of this amount.

Q. Doesn't this show that this concentration upon differences in an extrapolation from differences that you have engaged in in deriving your data for this entire analysis arithmetically, as you put it, inevitably produces wild statistics that you have then ground into your regression analysis?

A. That is not so. The use of first differences or differences between one period and another will, for certain ratios, produce fairly wide differences, particularly those ratios involving hours and miles.

[Tr. 7888] There is generally more stability to ratios involving miles and numbers of aircraft departures, that is, the ratios which are depending upon average hop, and over a period of five years the resultant average relationships, in my opinion, are satisfactory.

In almost every instance that we have been looking at, the number of added aircraft, the number of added departures are relatively small.

Q. I thought that you testified earlier that in your regression analysis there was no weighting of these segment-month statistics for the number of flights involved but the change was always treated as equivalent to any other changes.

A. That is correct, we treated each month as a separate and distinct entity.

Simat—Cross

Q. If you take into account the extremely small values, there are certainly quite a number of strange results here.

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[Tr. 7894] . . . Q. There are, of course, throughout these tables a number of operating statistics of added flights, and then operating statistics of deleted flights that are similar to the ones that I have called your attention to that have block to block speeds that are out of line with any possibility for a given airplane, that have lengths of hop that are surprising, to say the least.

They are, as you have explained, produced by the arithmetical results of the study of what you have called first differences here. But I think that you made it clear enough that you think these results are sound in your opinion and that you are willing to extrapolate from them so I won't go over all these other details.

Do you still insist that the method of subtracting one month from another month by type of aircraft and dividing these mileages and departures and relying on the factorial differences that you have got is a sound method of analyzing how an airline will operate?

A. Let me first point out to you, Mr. Tenney, [Tr. 7895] that we did not use the block speed relationships in any of our analyses programs in the form in which they appear in the tables referred to by you.

The only information that we used in connection with our analyses was the length of hop of added flights. And I do not believe that you dwelt too long on the length of hop added flights or deleted flights.

I do want to point out, however, that we did not use the block speed relationships nor did we use the utilization relationships in any further analysis.

I do not feel that the information that we were required to use for want of other information to establish the pat-

Simat—Cross

tern of added flights is the best information that I can conceive of for estimating how added airplanes would be used. It was, however, the best information available to us.

We worked with obvious problems insofar as we used information which was uncorrected for seasonal variations in traffic demand.

If we had better information, we would use the better information.

The estimating problem that we were confronted with was to make the best estimate we could with the information available on the stage lengths for which or [Tr. 7896] over which added jet aircraft would be operated or the added jet aircraft would be operated or the stage lengths from which jet—or piston aircraft would be deleted.

The best experience in my opinion as to what would happen with an additional injection of jet capacity is what did happen when capacity was added.

We were compelled by reason of not having the internal records of TWA to use published records as to the scheduling of aircraft. And we find in comparing the published scheduling records with reports submitted by TWA to the Civil Aeronautics Board that it is not always true that when flights are scheduled with Convair 880 aircraft they are operated with Convair 880 aircraft. We are also finding or have found that it is not true that when flights are scheduled with 131 aircraft that they are always operated with 131 aircraft.

There are substitutions of aircraft which do not appear in the schedule data. And for these reasons there is a certain amount of infirmity in the schedule information. On the other hand, there is nothing better—or was nothing better available to us.

And as for the soundness of the conclusions [Tr. 7897] that we have derived from the data, it is a fact that the

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stage length of jet operations decreased as jets were added. Nothing will alter that fact.

The decline in stage lengths is occasioned by the additional jet capacity at lower stage lengths than those flights that were operated before the addition.

This is a simple mathematical conclusion. If the flights were added at the same stage length as those already operated, there would be no decline in stage length. It is obvious that added flights were coming in during the period at lesser stage lengths than the flights that were already being operated.

We have used what we think is or was the best available information to us to estimate the relationship between the existing and added flight stage lengths, and I believe that our estimates are reasonable. We were able—

The Special Master: Can I interrupt at this point? I don't like to get too far out of tune with the development of the case. I am quite puzzled at this point.

Do I understand that the effect of the shorter stage lengths would be to increase your [Tr. 7898] estimated costs of operation?

The Witness: That's exactly right, sir.

The Special Master: I hope as we go along we can keep this in mind. How can it be that two people so expert in this field having the advantage of actual operating figures can estimate the financial results to TWA in the operation of a comparatively small number of airplanes and come-up with a difference of over \$100 million in a five year period which is over \$20 million a year?

I hope somewhere along the line we could get a summary so that I could focus on it while we are in the course of cross-examination here as to what are

Simat—Cross

the categories of difference here, because just at first blush it seems all out of line with me.

Mr. Tenney: Mr. Brownell, that is exactly what I plan to do in the course of cross-examination. It is quite a lengthy report and it has a lot of figures in it. But I propose to go through the report section by section, giving Mr. Simat as I believe I have today an ample opportunity to explain what he did. And I believe that it will be quite apparent how he has [Tr. 7899] come out with these diametrically opposite conclusions from the plaintiff's experts here.

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[Tr. 7917] . . . By Mr. Tenney:

Q. In Book V of the computer printouts, Table 16, the very first jet covered—

A. I believe it is the 880.

Q. 880. Have you found it?

A. Yes.

Q. Here I find that you have 34 samples for a study, Mr. Simat, and once again the data are determinable from the left-hand column, giving the Y values and the right-hand column giving the X values for your selected sub-case, and once again can be plotted in the same way.

[Tr. 7918] Is that generally correct?

A. That's generally correct.

Q. Have you attempted to plot this?

A. No, we have not made scatter diagrams of the information on this table.

Mr. Tenney: I ask that this graph be marked as TWA Exhibit 320 for identification.

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Simat—Cross

By Mr. Tenney:

Q. Assuming that TWA Exhibit 320 for identification is a correct transcription graphically of the data set forth in your selected sub-case on the 880s, and that the least squares line, as there represented, is a correct representation graphically of your selected equation, a statistician, do you consider that equation a very good fit of the data?

A. If that were the only information available, I might be somewhat disturbed about the strength of the relationship, but the information that you have plotted on the chart is not the only information available.

[Tr. 7919] I also had available to me the information that the Convair 880 stage lengths in actual experience decreased as Convair 880 aircraft were added.

I had the relationships that we had fitted not only to the Convair 880 equipment, but also for the Boeing 707s, 131Bs, the 131s and the 331s, all of which yielded a characteristic pattern that indicated that the marginal stage lengths, stage lengths at which added operations were performed, were substantially below the stage lengths of the existing operations at the time of the addition.

The relationships, moreover, are consistent among the various types of jet aircraft.

They are not only supported—they not only support one another, they are also supported, I think, by the planning expectations of TWA.

From our analysis of the TWA jet plans, we find that in projecting the usage of aircraft about to be delivered, that TWA's plans staff similarly made provision in their planning estimates for a decline in the average stage length of operations as the size of the fleet was built up. And this, of course, again indicates that the marginal load factor, the load factor at which added services were being performed or to be performed, is lower than the average stage length.

Simat—Cross

[Tr. 7920] So, taken alone, the relationship is not as good as I would have hoped it to be. Taken together with all other available information, the relationship yields a consistent result which is consistent not only with other relationships similarly derived for other types of aircraft, but also consistent with experience.

The Special Master: May I ask a question right there?

Would you go so far as to say in your own analysis that the other observations and information which you had in themselves was the basis of your final judgment rather than the study that you made here?

The Witness: That is exactly right.

As I indicated, we did not expect to obtain high correlations from the use of the kind of information that we used in these analyses, because we knew we were including seasonal distortions in the picture and we just didn't anticipate that the relationships would be that good.

On the other hand, we did get relationships from the analyses that were consistent with what we expected to find, and these relationships, I might say, are supported not only by empirical evidence, but [Tr. 7921] I believe by sound business practice.

In the scheduling of aircraft, an airline would ordinarily use the first airplanes that it receives in those uses which are the most profitable to it.

As additional aircraft are received, they will go into the next most profitable uses, and so on.

In the industry today, and it was true in the 1959-1963 period as well, the most profitable operations were conducted in the longer haul stage lengths.

Short-haul operations are today and they were in the 1959-63 period, either unprofitable or relatively unprofitable, compared to longer haul operations.

Simat—Cross

So the relationships that we determined here were relationships that we did expect to see. The problem is simply one of measurement, attempting to find the best measurement of the added stage length and it is in this area that we expect that the supplemental report will make a substantial contribution.

By Mr. Tenney:

Q. But, Mr. Simat, this is the only data you used in your statistical analysis, isn't it? None of the stuff [Tr. 7922] you are talking about is involved in the statistical regression analysis in these printouts?

A. These are the only data that we used to establish the precise relationship between the marginal stage length and the added stage length, to test the principle of whether the marginal stage length was, in fact, an amount below the average stage length.

We considered considerable additional data, including other information that appears in the IBM runs that have been made available to you.

Q. Is any of that additional data involved in the regression analysis that produced the equation that you have used to determine stage lengths?

I would like a yes or no answer to that.

A. I believe I have already given—

Q. I would like a yes or no answer to that.

A. To determine the exact relationship between added stage length and average stage length that was used in our estimates, we used no data, but the data contained in these analyses.

Q. Isn't it entirely clear that to any statistician—and, of course, you are an expert statistician, Mr. Simat—from this plot that the relationship shown by that least squares

Simat—Cross

line is statistically invalid and not as you [Tr. 7923] testified in your direct testimony statistically valid?

I refer to page A5 of Vol. II of Defendants' Exhibit 271.

A. One of the biggest mistakes that a statistician can make is to accept the data that he is working with as being beyond reproach.

A statistician must consider, in my opinion, the quality of the information that he is working with at the time he draws his conclusions.

It is customary practice among statisticians, for example, to exclude certain observations, on the grounds that they are atypical.

It is also a practice among some statisticians to weight observations differently. Those which they accord more standing to are weighted more heavily than those which they feel are more nebulous, more tentative, perhaps subject to greater error are weighted less heavily.

I have already testified that we considered a number of the observations here, those, for example, produced where the traffic was either trending upward or downward, seasonally, to provide a distortion in the relationships.

What we hope to have is a balance in the distortions. [Tr. 7924] And I believe that we did, in fact, achieve a balance.

We got on balance a relationship which was consistent with what we would have expected on an a priori basis.

Q. I don't see how you can have it both ways, Mr. Simat. Either you are going to rely on history and not on a statistical analysis that you say you have determined to be statistically valid—in that case we can talk about history and we have no quarrel about history if history is used in an undistorted way.

Simat—Cross

But I do not see how you can refer to history to back up a statistical analysis that you have testified—and you are under oath on this, Mr. Simat—

Mr. Hayes: He is quite conscious of the fact he is under oath. Let's not be Perry Masonish about this.

Mr. Tenney: It happens to be an important factor here.

Mr. Hayes: Everything is important in this case, Mr. Tenney.

Q. Mr. Simat, do you know of any instance in which a statistician has represented an analysis as bad as this [Tr. 7925] one as being statistically valid besides your own?

A. Yes.

Q. Name one.

A. In the first place, I do object to the characterization of the analysis as bad.

There are a number of observations that are plotted on the chart which is marked for identification as TWA 320. They do not all have the equal value.

The fact is that a least squares line fitted to all of the observations does show the kind of trend that we anticipated we would receive.

The fact that there are observations above and below the line do not shake my confidence in a line, particularly since I do know from other information that the line that we obtained is the kind of line that must have historically occurred in the TWA experience.

The Special Master: That means you disregarded this particular part of the study in reaching your conclusion? Because this would appear to be contrary to your—

Simat—Cross

The Witness: No, we haven't disregarded it, this part of the study. We have used the relationship shown here to determine the exact mathematical relationship between the stage length of added [Tr. 7926] flights and the average stage length. We have used it for that purpose only to find a measure of the relationship between the two results.

We have not used correlation in this case to test whether the relationship is indeed valid, because there is other information which I think is superior, that indicates that we are dealing with a valid correlation.

Now, I personally would have hoped for a more defined relationship in the sense that the amount of distortion present would be less than is here.

I believe that the way we have conducted the analysis, we have balanced out upward and downward distortions.

What I am saying in short is that I personally do not place much weight on the correlation coefficient that is derived from this particular relationship.

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[Tr. 7928] . . . By Mr. Tenney:

Q. We have prepared in exactly the same way graphs of the data set forth in Table 16 of the computer printouts in your preferred sub-case with respect to the other two types of jets, as to which you have determined equations that are set forth and used in your report.

The equations themselves, of course, appear on page A7 of Vol. II of your report. The data are derived from the computer printouts.

I take it, Mr. Simat, that your answers to similar questions with respect to these two charts would be the same

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Simat—Cross

as the answer to the questions that I have asked you on the earlier charts. Would that be so?

A. Yes.

Q. Keeping these computer printouts in front of you, there is some additional information on these computer printouts that I would like to examine.

I think that this table which I have had prepared in blank, which can be filled out from data in the computer printouts, may be helpful.

I show you the form of the table.

[Tr. 7929] Ignoring, for the time being, the latter two columns, I would like to refer to the computer printout and determine with you what the figures would be for the first three columns that are blank in this form.

To explain the left-hand two columns, if necessary, the left-hand column simply identifies the aircraft type, and the next column sets forth the equation taken directly from your page A7 of Vol. II of your report. It also, of course, is derivable from the computer printouts.

The next three columns are the ones that I would like to obtain the information called for.

Turning to the B-331, can you tell us what the R figure is or coefficient of correlation for your preferred equation in the B-331, Mr. Simat?

A. The figure is .24429.

Q. How about R^2 ?

A. .05968.

Q. How about the standard error?

A. 3906.831.

Q. The CV-880 comes a little earlier in the printouts, I think you will discover. I wonder if we could get the same information for the CV-880?

A. The R is .17838.

The R^2 is .03182.

Simat—Cross

[Tr. 7930] The standard error is 931.694.

Q. Next on the B-131—

The Special Master: Is this for each plane? When it says B-331, does that mean for each increase, each plane added?

Mr. Tenney: This is the formula that Mr. Simat has derived for use in determining the stage lengths for added flights for B-331s throughout the period.

The Special Master: Generally?

Mr. Tenney: Generally.

The Special Master: I see.

By Mr. Tenney:

Q. On the 131, what is the corresponding information?

A. The R is .69148.

The R^2 is .47815.

The standard error is 2345.181.

Q. Then the B-131B, which is the last of the jets as to which you have derived equations set forth in your report?

A. The R is .27594.

The R^2 is .07615.

And the standard error is 1864.768.

Q. Those standard error figures are all in miles, as [Tr. 7931] indicated in this table; is that correct, Mr. Simat?

A. Yes.

Q. Turning to the last two columns left blank in this form that I have given you, the expression at the head of the next-to-the-last column, $1 \text{ minus } R^2$, I believe you defined at our last session as the coefficient of nondetermination; is that correct?

A. That's correct.

Q. And that can be derived, can it not, by the arithmetical subtraction of R^2 from 1; is that correct?

A. Yes.

Simat—Cross

Q. The square root of 1 minus R^2 , which is the expression at the head of the final column, we found at our last session is the coefficient of alienation, I believe; is that correct?

A. Yes.

Q. And as indicated by the form of the expression, once the coefficient of nondetermination has been obtained, its square root can be calculated and that will be the coefficient of alienation; is that correct?

A. Yes.

Mr. Tenney: It would save time, perhaps, if I furnished everyone with those figures. They are readily obtainable, of course.

[Tr. 7932] I would like to have the sheet which Mr. Simat has been filling out marked as TWA Exhibit 323 for identification.

Mr. Hayes: He did not fill it out. He was reading the figures.

Mr. Tenney: In that case, I would like to have this sheet which sets forth in the columns to which Mr. Simat was referring identical figures to those which he read.

On the last two columns, the figures are obtainable by the mathematical computation that he has just described.

I would like that marked as TWA Exhibit 323 for identification.

Mr. Hayes: You don't want that. The other one would be 323.

Mr. Tenney: I withdraw that. I thought I would be marking something that he had been marking, but it is unnecessary under the circumstances.

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Simat—Cross

By Mr. Tenney:

Q. Referring to Arkin and Colton Statistical Methods [Tr. 7933] Book, which we were referring to at our last session, on page 85, I read the following:

"Just as the coefficient of correlation is a relative measure of the degree of association between two series, the coefficient of alienation is a comparative measure of the lack of association."

Do you agree with that statement, Mr. Simat?

A. Yes.

Q. Looking at TWA Exhibit 323 for identification and looking at the extreme right-hand column, we find that the coefficient of alienation for your formula as to B-331s is .96970, which is very nearly perfect alienation or nonassociation, isn't it, Mr. Simat?

A. What the formula indicates is that there is a considerable amount of variance which is not explained by the relationship.

As I have testified, I would expect that.

Q. You have even more perfect alienation for the CV-880 formula, do you not?

A. There is a higher coefficient of alienation, meaning that there is more unexplained variance, yes.

Q. Even for the B-131, the coefficient of alienation or the measure of nonassociation of the data that you have been analyzing is greater than the coefficient of correlation, [Tr. 7934] is it not?

A. That's true, but from that one cannot conclude that there is an invalid statistical relationship between the two variables.

Q. The final jet that we have here, we have once again a very high coefficient of alienation, .96, which is far higher

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Simat—Cross

than any measure of association shown for your formula; is that not correct?

A. That is correct, there is a considerable amount of unexplained variance.

Q. Mr. Simat, do you wish to change your testimony as set forth on pages A7 of Vol. II of your report to the effect that you have determined that these formulas are statistically valid and a significant improvement in estimating stage lengths if added jet flights?

A. No.

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[Tr. 7978] * * * Q. The historical average was 1844 miles for B-131s during the year 1959, and your report has statistically determined that added flights would be at 1401 miles by the [Tr. 7979] use of your equation in part A of Vol. II; is that correct, Mr. Simat?

A. Yes.

Q. Referring to Ezekiel and Fox, page 24, a portion of which we read into the record some time ago, you will recall that Ezekiel and Fox suggests that the standard error of an average or an estimate should be given together with it as one method of indicating the statistical significance of the average.

The standard error shown on TWA Exhibit 323 for your B-131 equation is 2345 miles. So that if you were to follow the practice suggested by Ezekiel and Fox, an appropriate way of stating the mileage that you have estimated for 1959 B-131 added air flights would be, would it not, 1411 miles plus or minus 2345 miles?

A. Well, I don't know that that's an appropriate way of stating it. And I agree that you should indicate a standard error of the estimate. It could be one standard error on one side of the number, two standard errors, three standard errors.

Simat—Cross

There is no single practice that is preferred.

But I don't know what implication you are attempting to obtain from all this. Whatever the standard error of the estimate may be, what the equation yields is the [Tr. 7980] most probable value of the marginal stage length.

Q. And if, as you suggested, you were to use two standard errors and follow the Ezekiel and Fox method of notation—you would only use two standard errors if you were trying to emphasize your interest in accuracy—the notation would be 1411 miles plus or minus 4690 miles, wouldn't it?

A. You understand, of course, that the standard error is both to be added and subtracted. So that having arrived at a figure of 1411 miles as the probable value, that what the standard error is saying in effect is that you could subtract from that figure as well as add to that figure.

And it could very well be that the true marginal stage length is below the figure of 1411 miles that we have estimated. It cuts both ways.

The Special Master: It would be somewhere between 0 and 4000 miles, roughly?

Mr. Tenney: It might be minus, sir, by his analysis.

The Special Master: It might be minus down to 0? It might be plus up to 4000. Would that be right?

Mr. Tenney: I suppose so, sir. Some place [Tr. 7981] in that range.

The Witness: Well, the equation determines the most probable value.

The Special Master: Yes, I understand.

[Tr. 8007] • • • Q. Would you turn in your report, Mr. Simat, to page B-8?

Simat—Cross

Towards the bottom of the page you state:

"Selecting those city pairs where increases in jet services were accompanied by decrease in piston services, we correlated the amount of changes in jet services with the amount of changes in piston services for the various combinations of jet and piston aircraft types involved."

You go on to say that you did the same thing among piston types, and you state that the correlations appear in Table B-V on page B-9.

What was the purpose of this analysis, Mr. Simat?

A. The purpose of the analysis was to ascertain whether the introduction of jets displaced the piston [Tr. 8008] type aircraft in rough proportions or whether the effect was concentrated in one or another of the piston type aircraft.

In short, we were testing Mr. Wemple's premises and our own premise by this examination.

If, in fact, the introduction of the jets affected only the long haul piston aircraft, we would expect to find correlation between the added jet services and the displaced piston services only between jet aircraft and such aircraft as the Lockheed 1649A.

We did, however, find that there was a strong correlation between added jet services and displaced piston services for all prevailing types of piston aircraft. And this we believe supports the validity of our estimate that where we have in estimating the distribution of piston miles displaced by plane type allowed for proportionate declines, in the piston miles operated by all types of aircraft.

Q. How was this analysis performed?

A. It was performed by selecting those city pairs and those periods, changes from one month to the next, where there were increases in jet operations and decreases in

Simat—Cross

piston operations with the particular types of airplanes involved here.

[Tr. 8009] In other words, for the correlation between Boeing 331s and Martin 404-202As, the R being for that correlation .87, we selected all of those segments where there was an increase in Boeing 331 service and a decrease in Martin 404-202A service in the same period, and we correlated the amount of correspondence in the segments between the amount of added Boeing 331 service and the amount of retired or displaced Martin 404 service.

In short, if one mile of Boeing 331 service was added and one mile of Martin 404-202A service was displaced, we had a correlation between those two factors.

If it varied among the segments, then in some cases the amount of added Boeing 331 miles might be five and the deleted Martin 404 miles one, so that we had one for one mile displacements, five for one mile displacements, ten for one mile displacements and so on, the correlation would be lower.

It was only when the displacement was on either a mile-for-mile basis or some defined ratio that remained constant among the various pairs of points that we got high correlations and this—what's set forth here is the result of those regressions.

Q. Would these additions and deletions be on the same segments?

[Tr. 8010] A. Yes.

Q. And in the same month?

A. And in the same month, yes.

Q. Since there are 60 months and well over 100 segments served by TWA at all times during this period, you have approximately—you have a minimum of 6000—actually I think it is closer to 8000—segment months that you were studying, is that correct?

Simat—Cross

A. You would have to multiply that by another factor to provide for the number of different combinations of aircraft that are under consideration.

Q. But each segment month is separately studied to determine what combinations of aircraft you can find to have changed in that segment month, is that—

A. That's right.

And one particular segment month can provide as many as ten combinations of aircraft, ten or more, taking two at a time.

Q. Where in the computer printouts is this analysis to be found?

Actually, Mr. Simat, I think—

A. The basic data, of course, appear in Table VIII, Book III.

Q. The regression analysis to be found in Table XX [Tr. 8011] of Book V?

A. Also Table XXI.

Q. Looking at your chart on page B-9, the first half of it where you are showing correlation between added jet services and displaced piston aircraft services, there are 27 different correlation figures shown.

Comparing them to the correlations that appeared originally on your unrevised page B-9 there really is very little similarity. They are practically all changed. They aren't even all relating to the same pairs of aircraft types.

Can you explain why these results were changed so very much in your revision?

A. Well, in the first place, I don't agree with your characterization of the results. I think that both the unrevised and revised data indicate the same general picture, and that is the correlation between added jet services and deleted piston services across the board for all types of piston services.

Simat—Cross

As to why there were changes, as you know there were some errors in the original schedule analysis, and these errors were corrected in the revised schedule analysis.

In some cases, the number of instances where we [Tr. 8012] had an increase with one type of airplane and a decrease with another type of airplane, these were diminished to the point of no return or were added and so we have somewhat different results.

But the picture is in my opinion almost exactly the same and the changes themselves are not material.

Q. In original page B-9 for these two particular aircraft types you referred to a moment ago, the Martin 404 and the Boeing 331, originally you showed a correlation coefficient of 1.00.

Now, in the revised page you show a correlation coefficient as you mentioned a moment ago of .87.

Looking at Table XX of Book V where the regression appears for this particular pair of planes, it is opposite sign change M4 versus B30 is the heading—have you found the table, Mr. Simat?

A. Yes, I have.

Q. How many samples is this based on?

A. Two.

Q. So that out of the, say, 8000 segment months, there were two segment months in which there was a change in the service of opposite sign nature between Martin 404s and Boeing 331s, is that correct?

A. That's correct.

[Tr. 8013] Q. Actually I was rather surprised in the light of that number of samples at the change in the correlation coefficient between 1.00 in your original and your revised .87.

With two samples, you only have two points, don't you, Mr. Simat?

A. That's correct.

Simat—Cross

Q. Isn't it true that you can draw a straight line between two points that passes perfectly through those two points necessarily?

A. That's certainly true.

Q. What would the correlation coefficient of such a straight line be with respect to those two points?

A. 1.00.

Q. Yet the correlation coefficient set forth in this table is as you reproduce it in your report, .87, is it not?

A. That is correct.

Q. Can you explain this apparent anomaly, Mr. Simat?

A. The only way I can explain it and I would certainly have to check into it is that the RHO which is printed out here is a RHO corrected for the number of samples.

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[Tr. 8018] . . . By Mr. Tenney:

Q. Mr. Simat, just before lunch, we were talking about Tables 20 and 21 of the computer printouts and their relation to the correlation set forth on page B-9 of Vol. II of your report.

We had been talking about the particular relationship between Martin 404s and B-331s and had noticed that there was a sample size of 2 in Table 20 with a coefficient of correlation of .87.

On Table 21, which takes in all sign changes for that same pair of types, there is a slightly larger sample size.

Have you found the table, Mr. Simat?

A. Yes, I have.

Q. The sample size there is 5, is it not? . . .

[Tr. 8019] . . . A. Yes, the sample size is 5.

Q. So that if you take all instances out of the 8000 segment months under study in which changes in both the 331s

Simat—Cross

and Martin 404s occurred, there are 5 of which 3 had changes in the same direction; is that correct?

A. Yes.

Q. It was only the other two that had changes in the opposite direction that you had studied in Table 20 coming up with a correlation coefficient of .87.

Now, when you take the remaining three into account in Table 21, the correlation coefficient is only .25; is that right, Mr. Simat?

A. Yes.

Q. And R^2 is .06?

A. That is correct.

Q. To take the one that you were looking at a moment ago that I inadvertently misled you to, the Martin 404 against the CV-880, you have a sample size there of 3, [Tr. 8020] taking all changes into account in the 8000-segment months, is that right, Mr. Simat?

A. Yes.

Q. And the coefficient of correlation there is .29 and the R^2 is .08; is that right?

A. That's right.

Q. Of those three samples, one involves changes in the same direction. Table 20 only studies another case of a sample size of 2 in opposite directions.

If you turn to Table 20 on that pair of airplanes, you will find a coefficient of correlation .65, which, once again, is surprising, since a straight line can be drawn between the two points, but still considering the sample size and the nature of the coefficient of correlation, is that a very statistically valid relationship that you have determined?

A. No.

.

Simat—Cross

[Tr. 8064] By Mr. Tenney:

Q. The figures that we looked at on page 4-33 were only for 1960, of course, and they only reflected the passengers deleted because of the addition of that portion of the six additional 331s that were put on domestic service in 1960, which was an average of 1.4 aircraft.

If for 1960, for example, you wish to count all the passengers that were deleted, piston, because of, according to your study, the replacement of piston flights by jet flights, you have to go to Part V, VI and VII.

In Part V, the figures are on page V-20. This relates to the earlier delivery of CV-880s, twenty in number. Excuse me. Early deliveries of the Boeing 331s and 131s. I am sorry.

And the 1960 total of passengers deleted works out at 83,371.

For the twenty CV-880s, that is Part VI, on page 6-18, and a large number of passengers are deleted in 1960. It works out adding all these types together at 947,374.

In Part VII at page 7-19, still in 1960, for ten additional 880s, we have an additional 533,971 piston passengers deleted for a total in that year alone of 1,729,434 piston passengers that TWA is assumed to have [Tr. 8065] lost.

Totaling the corresponding tables for jet passengers added, you get 546,707, for a net loss of 1.2 million passengers.

Doing the same thing for all others, coming up with a grand total—none of these figures are added up and totaled by year in your report—but totaling them up, we find that in the five-year period TWA has deleted 5,102,206 piston passengers, but has only gained 2,041,515 jet passengers for a net loss of over 3 million passengers.

Simat—Cross

Don't you think that computing a net loss of over 3 million passengers as the direct result of reequipping the airline with new, modern jet equipment is a little strange, Mr. Simat?

A. Not a bit. As a matter of fact, my figures don't entirely agree with yours, but they are very close. And they indicate that over the five-year period, according to our estimates, there would be a decrease of approximately 13 per cent in total passenger originations of TWA, and a decrease of 2.5 per cent in the total passenger miles flown by TWA.

And if I again—I again call your attention to the statistics which I cited earlier that indicated that between 1959 and 1961 alone at a time when TWA added approximately 1 billion seat miles to its operations with jet airplanes, TWA suffered a loss of over 10 per cent in the number of passengers which it carried, and I believe a loss in the passenger miles—I haven't checked that figure—I will right now—

Q. You attribute this loss to the direct result of the equipment with jet aircraft, Mr. Simat?

A. There is a loss in passenger miles from a total of 4.6 billion to 4.25 billion, approximately, in a two-year period.

And I do attribute this loss to the scheduling changes which accompanied the introduction of the jet fleet.

As I pointed out, the replacement of piston aircraft miles with jet aircraft miles in the longer stage lengths and the increase in the absolute number of jet flights operated in the longer stage lengths did not develop any material amount of traffic.

On the other hand, the displacement of piston services from the shorter stage lengths did have a material impact

Simat—Cross

on the volume of traffic moving in the short-haul segments. And it did decrease in absolute terms the number of passengers and passenger miles that [Tr. 8067] were flown over those segments, because the short-haul market is extremely sensitive to the number of flights that are operated, the frequency of service and frequency of service was curtailed and curtailed very markedly during this period.

Q. You believe that by TWA getting and putting into service ten additional Convair 880s and about perhaps up to one-third of six additional Boeing 331s that would have been assigned to domestic service, plus the somewhat earlier receipt of the aircraft, both the additional and the ones that it did, in fact, receive—it is your opinion that this would have had the direct result of TWA losing net something in the neighborhood of 3 million passengers?

A. That is correct. I think the last thing that TWA needed at this time was additional capacity. That was at a time when the entire industry was having difficulties incorporating the capacity which it had.

The earnings of all carriers were down and all carriers show the same kind of decline in traffic.

If I recall the period, the government was quite concerned at that time about the amount of over-capacity and the airlines were furnishing a report to the Board at its request, with special data indicating load factors of jet flights on the major segments of the airlines. This [Tr. 8068] was no bonanza period.

Q. Going back to this table that you were referring to in the Handbook of Airline Statistics, looking at the originations—if that is the line that we should look at—line 19—if you extend your examination from 1961, which is where you directed our attention up to 1963, you do not find that there has been a loss in passenger originations since 1959, do you, but, instead, an increase in passenger originations?

Simat—Cross

A. That is correct. And it took a very substantial growth in the economy to produce that kind of an increase in traffic.

Q. It is about a 500,000 increase in passengers net over that five-year period; is that correct?

A. Are we still referring to TWA?

The Special Master: Yes, origination.

The Witness: Passenger origination. Excuse me. I am looking at the wrong line here.

Let me point out that between 1959 and 1962 the number of passenger originations on TWA in no year exceeded the 1959 total. It was only in 1963 that we had the increase of 500,000 passengers.

And I should further point out in connection with that that there was a very substantial gain in [Tr. 8069] income levels and in economic activities which accounts, in my opinion, for the general increase in traffic during this period.

It has nothing to do with the acquisition of jets. . . .

[Tr. 8070] . . . By Mr. Tenney:

Q. Mr. Simat, the answers that you were giving, explanations that you were giving a moment ago, lead rather naturally into the consideration of load factors and other matters that are discussed rather fully in your Part C, which I think we can go into more fully tomorrow.

There is one question separate point still in Part B that I would like to get before we get to Part C, and it is a change of subject.

It deals with pages B-19 and B-20 of Vol. II of your report.

Simat—Cross

On these pages there appears a section or there commences, I should say, a section headed "Number of Piston Aircraft Retired (Domestic and International Divisions)."

On those two pages which are both revised, there [Tr. 8071] are some changes indicated from the earlier version of your report.

I wonder if you could explain to me why you made those deletions?

A. Simply because I goofed. I had intended to use a method which would substantially understate the number of piston aircraft retired, so that the eliminated depreciation and insurance costs would be low.

I found that I selected a method which maximized the amount of depreciation and insurance costs that I eliminated. It was just a mistake on my part. I don't know how I managed to mesmerize myself into thinking I had chosen the conservative method, but I was wrong.

Q. When you had found out that you had not chosen the conservative method, Mr. Simat, but had, instead, chosen a method that would maximize, you decided to stick with the maximization and change the description of it as conservative rather than the other way around; is that correct?

A. I don't believe I have categorized it as conservative.

Q. You did originally?

A. I did originally, yes.

Q. And that is the substance of the deletion, [Tr. 8072] isn't it?

A. I fully confess to the error of my ways.

Q. If you had calculated the annual aircraft miles per available aircraft for each of the years in question from the actual data for that year, the result would have been fewer aircraft miles per available plane and a larger number of so-called surplus aircraft than you have assumed, would it not?

Simat—Cross

A. Yes, if we had used the low utilization rates prevailing as a result of the mothballing of piston aircraft, no longer used or useful in TWA's aircraft services or schedule services, we would have ended up with a higher number of surplus aircraft, yes, sir.

Q. On page B-21 where the table appears in which you compute the number of surplus aircraft, actually all of those dates under the word "Years" really are meaningless, aren't they? Couldn't they just as well be replaced by the year 1958, since it was 1958 data that you used?

A. Oh, I suppose we could eliminate some superfluous numbers in the table.

The fact is that the last column, the annual aircraft miles per available aircraft, is the figure that is used in calculating surplus aircraft. And the same figure was used for each aircraft type for each year.

[Tr. 8073] And that figure is based upon 1958 experience. . . .

[Tr. 8092] . . . Q. Turning, however, to TWA Exhibit 330, which sets forth both jet capacity and piston capacity, it is true, is it not, Mr. Simat, that a piston seat offered to the public on any market is, to some extent, a competition with every type of seat that is offered to the public on the same market?

A. I don't think there is any question about that. If their services are operated in the same market, if they are at all acceptable to the public traveling in that market, those services do compete with all other services in the same market that are similarly acceptable to the public.

Q. Consequently, it is relevant in determining the increase in capacity that is being offered to the public, based on your assumptions of increases in the number of [Tr. 8093] jet seats offered, to take into account the overall capacity including pistons; is it not?

Simat—Cross

A. Only to the extent that there is a direct overlap in every market in which services are offered. That is, in every market where there are jet services, there are piston services. In every market where there are piston services, there are jet services.

Also, if we are going to play the arithmetic game of adding piston capacity and jet capacity as though they were equal things, the results can be highly misleading, because while a piston seat does compete with a jet seat, it does not compete with a jet seat on equal footing.

Q. On TWA Exhibit 330 for identification the next to last column sets forth the net change for TWA alone, jets and pistons, year by year, and that column certainly is dealing with a change in the same market, is it not, Mr. Simat?

A. No, it is not.

For that column to be accurate, we would have to have the conditions that I just enumerated, a complete overlap of the market where piston and jet services were being supplied and complete comparability of jet and piston seats in terms of their appeal to the public.

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[Tr. 8120] . . . Q. Page 403 of the 1965 CAB Handbook which I see that you are looking at gives a definition of break-even passenger load factor which is very close, almost exactly the one that you gave as your first definition, and I assume is the definition that we should use in looking at these tables.

[Tr. 8121] I read that definition into the record just for convenience.

"Break-even passenger load factor represents the number of passenger load factor points at which scheduled passenger revenues equal the cost of conducting scheduled passenger service."

Simat—Cross

I think that is all I need to read for our present purposes for the definition.

Using break-even load factors in that sense then, Mr. Simat, what was the effect on the break-even load factors of American trunk airlines of the introduction of jets into their fleets?

A. The general impact was to reduce break-even factors.

Q. The break-even load factors for operations of jets was lower than with pistons, was it not?

A. On the basis of overall averages, that is true.

In the shorter haul markets, the break-even load factor on jet operations actually exceeds the break-even load factor on certain of the pistons.

Q. That varies in accordance with the type of jets as well as the type of pistons, does it not, Mr. Simat?

[Tr. 8122] A. It varies with the type of jets as well as the type of piston.

It varies with the distance of operations.

It varies with revenue yield.

There are lots of variables in the break-even load factor.

Q. Page 403 of the CAB Handbook, 1965 CAB Handbook, which is the page that I see you have before you, gives the average break-even load factor for the domestic trunk lines generally as being for the year 1959, 57.5 per cent; for the year 1960, 58.3 per cent; for the year 1961, 56.0 per cent; 1962, 51.3 per cent and 1963, 50.7 per cent.

Is that correct, Mr. Simat?

A. That's what the figures say.

Q. Your Table C-VII at page C-17 of your report shows 1961 as the first year when the trunk line carriers had approximately as much jet capacity as piston capacity. Before that, there was more piston capacity. After that, there was more jet capacity.

Is that correct, Mr. Simat?

A. Yes.

Simat—Cross

The Special Master: What year was that?

Mr. Tenney: 1961.

[Tr. 8123] Q. Generally, the sharp drop in break-even load factors following 1960 and for the next several years has been attributed to the introduction of jets into service, is that not correct, Mr. Simat?

The Witness: Excuse me. May I have that question read back, please? I missed something.

The Special Master: Sure.

(The question was read.)

A. I am not sure that everyone attributes the decline in break-even load factor to the introduction of the jets.

I certainly do.

The Special Master: Did or did not?

The Witness: Do.

Mr. Tenney: There is time, I think, perhaps, for one more general question before lunch. It may save a good bit of time if it proves possible to answer it simply.

Q. Can we agree, all else equal, that a passenger would in all probability choose to travel by a jet rather than by a piston, if he was given the alternative?

A. I am sure we could agree on that, if we add a few more conditions. One is that the timing of the jet and piston services are acceptable to him; that the [Tr. 8124] number of stops or routing of the airplane is satisfactory, both from the standpoint of the jet and the piston services.

I don't think there is any real doubt that a passenger offered a choice of alternative services at convenient departure times, offering him non-stop, where he wanted to go, that passenger would unquestionably choose the jet.

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Simat—Cross

【Tr. 8125】 * * * The Witness: I wanted to supplement the last answer that I gave to state that I was assuming, in making the answer, that the rates for transportation on the jet and piston aircraft were the same.

The Special Master: You mean the fares?

The Witness: Yes.

Cross examination (cont'd) by Mr. Tenney:

Q. Mr. Simat, if the break-even load factors decline simultaneously, it is perfectly possible for a decline in passenger load factors to be accompanied by an increase in profits, is it not?

A. Yes.

Q. American Airlines, at the end of 1959, is shown by the ICAO Fleet Statistics, which appear in TWA Exhibit 57, which is already in evidence—American Airlines, 【Tr. 8126】 as I say, is shown as having at the end of 1959 twenty-four jets in its fleet, all of them Boeing 707s.

I show you a photocopy of the relevant page of TWA Exhibit 67.

Is that correct?

A. Are you asking me to vouch for the ICAO Statistics or simply to tell you whether the figures you quoted are part of the statistics that you furnished me?

Q. Whether they are part of the statistics that I furnished you.

A. Yes, there are twenty-four aircraft shown for American Airlines as of the end of 1959.

Q. The corresponding table, still from TWA Exhibit 67, in the ICAO Fleet Statistics as of the end of 1960, shows that American Airlines had increased its jet fleet by an additional ten Boeing 720 jets; is that correct?

Simat—Cross

A. The same source shows that as of the end of 1960 American Airlines had thirty-four aircraft on hand, ten of which were Boeing 720 aircraft.

Q. I make that a 42 per cent increase in its jet fleet from the end of the preceding year.

Referring to the 1965 CAB Handbook which you have before you, at page 144, American's overall load factors are shown as declining from 70.4 per cent in 1959 to 65.3 [Tr. 8127] per cent in 1960; is that correct, Mr. Simat?

A. I am looking at a page 144, Mr. Tenney, and I see a load factor of 60.5 per cent which is termed the overall revenue load factor in 1959, and a load factor of 56.5 per cent in 1960.

I think you were talking about a revenue passenger load factor, not the overall load factor.

Q. Yes, I am incorrect. I did misspeak myself, Mr. Simat. I intended to call your attention instead, as you have indicated, to the total revenue passenger load factor which in those years is 70.4 per cent and 65.3 per cent respectively. Is that correct?

A. Yes.

Q. The same handbook, 1965 handbook at page 403, which we were looking at this morning, reports break-even load factors, and for American they report the break-even load factor—break-even passenger load factor, I should say—as being 65.2 per cent in 1959, but 61.0 per cent in 1960; is that correct?

A. Yes.

Q. Still in the same handbook at page 242, American's [Tr. 8128] operating profit is reported, and its operating profit in 1959 is reported as having been \$24,518,000. It stayed about the same, but rose slightly in 1960 to \$24,721,000, according to this report.

Is that correct, Mr. Simat?

A. Yes.

Simat—Cross

Q. So that American in the years 1959 to 1960 would be an example of an airline whose passenger revenue load factor declined while its profit stayed even or, indeed, increased somewhat; is that correct?

A. That is correct. And I point out further that between 1959 and 1960, American Airlines added approximately 1.5 billion seat miles to its total operations. While I do not have the figures for jet and piston service separated, I would assume that the great bulk of the increase, if not the entire increase, was increased seat miles operated with jet aircraft. And having added 1.5 billion seat miles during this period, American Airlines added a profit of approximately \$200,000 between 1959 and 1960.

The Special Master: Operating profit?

The Witness: Right.

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[Tr. 8142] *** Q. In 1964, for Trans World Airlines, the CAB 1965 Handbook at page 146 shows a revenue passenger load factor of 56.4 per cent which has decreased substantially from the years that we were looking at earlier; does it not?

A. Yes, and it is up considerably from the low point of the period which was in 1962 when the load factor was 51.3 per cent.

Q. On page 403, the break-even passenger load factor for TWA is shown as having declined to 48.9 per cent which is substantially lower than it was during the years we were looking at before, is that not correct?

A. Yes, it is down from the break-even load factor in 1959 and also from the break-even load factor in 1960.

[Tr. 8143] Q. On page 244, TWA's domestic operating profit for the year 1964 is shown at \$50,892,000, is it not?

A. Yes.

Simat—Cross

Q. So this, too, is an example of the fact that it is possible for load factors to decline while profits increase, is it not?

A. I wish you would go back over those figures again. It was my recollection that the load factor in 1964 was up.

Q. The load factor in 1964 was 56.4 per cent and the comparison that I was drawing was with 1960 when it was 63.9 per cent.

So that over that period of time, there had been a decrease of 7.5 per cent in the load factor?

A. Yes, it is possible.

It is also possible to lose money in a rising load factor.

Q. You have explained both in your report and orally that in your opinion not only did each addition of jet capacity produce a less than proportionate traffic increase, but also that each decrease in piston aircraft capacity—that with each decrease in piston aircraft capacity the loss in piston traffic was more than [Tr. 8144] proportionate to the reduced capacity. There, of course, I am quoting from C-I of your report.

I think that you have also here earlier today and yesterday drawn the further conclusion that a net loss of airline passengers over this period was the result, is that correct?

A. That is correct.

I indicated that the explanation of the loss in traffic was sensitivity of the passenger travel market in shorter stage lengths to frequencies of operations, that is, to the number of flights available. With the curtailment of piston aircraft services, the effect on traffic is quite marked.

Q. The 1965 CAB Handbook at page 144 has American statistics, that is, American Airlines statistics, and at page 132 it has total domestic trunk statistics.

Simat—Cross

Looking first at American and at the origination line which I think you told us the other day was the best line to look at, the line 19 as far as traffic goes, I find that in the last pre-jet year, which was 1958, American's originations are reported as 7,191,000 and that in 1963 the last year that we are concerned with in our study, at 8,402,000.

The intervening years I will read rapidly.

[Tr. 8145] 1959, 7,633,000.

1960, 8,080,000.

1961, 7,576,000.

1962, 7,998,000.

Over the period, is it not clear that American's passenger traffic increased significantly?

A. It is certainly true that over the period from 1958 to 1963, there was a significant increase in American Airline's traffic, and the traffic of every trunk line in the business.

Also, all the local service airlines, all of the international carriers. And this increase was in large part the result of a very substantial gain, in economic activity.

Q. It is also the period of the first five years in which jet capacity was introduced by these airlines into schedule service, is that not correct?

A. That is correct.

And let me point out to you, Mr. Tenney, that with respect to American Airlines' passenger originations, between the year 1959 and 1961, there was a decline in the absolute number of passengers from 7,633,000 to 7,576,000.

And this was a period when American presumably, by your count, had an edge in the number of jet aircraft.

[Tr. 8146] Q. The decline as we both know, for TWA was greater, was it not?

A. Yes, but with a greater number of aircraft, American Airlines, they should have shown, if I understand your theory correctly, a substantial increase in passenger traffic.

Simat—Cross

It is perfectly obvious that the jets that were added between the years 1959 and 1961 did not add a single passenger.

Q. I would like to put into the record the corresponding figures for domestic trunks as a whole from page 131 of the CAB Handbook, again the originations line. For all domestic trunks in 1958 there were 35,515,000 originations.

1959, 44,488,000.

1960, 45,184,000.

1961, 44,669,000.

1962, 46,759,000.

1963, 53,380,000.

The increase that those figures reflect you would attribute to the same factors that you attribute the increase in American's passengers, is that correct, Mr. Simat?

A. I increased—I attribute the increase in the [Tr. 8147] total number of passenger originations and the much greater increase in passenger miles I might point out to a greater public acceptance of air transportation, part of a continuing trend, and further to a very substantial improvement in the state of the economy.

If you will take random data for the years 1965 and 1966, you will see the increase in these two years is even more dramatic than anything that we had experienced before without any substantial influx of jets.

Q. Will you repeat that last part, please?

A. Without any substantial influx of jets.

Q. On page C-II, you make the statement at the end of the first paragraph that in your opinion:

“A further addition of capacity by TWA or by any other air carrier would have been even more unprofitable.”

Simat—Cross

Setting TWA aside for the moment, what do you mean, Mr. Simat, when you use the phrase "even more unprofitable" in that sentence?

A. I have in mind that between 1958 and 1961, for example, the airline industry added considerably to its investment in the form of jet aircraft, and yet the airline industry as a whole did not experience [Tr. 8148] an increase in earnings. In fact, there was a decrease in earnings.

So that for every dollar of investment added, there was, in fact, a loss, an operating loss.

I am suggesting that if the capacity increase had been any greater than it actually had been that the amount of the profit lost would have been still greater.

I am further suggesting that it was not possible for any major airline to have added capacity over and above the capacity it already added at a profit.

Q. The fact is that American Airlines returned a profit in its operations during every year of this period, did it not?

A. That is not the test.

The test is whether the additional investment in aircraft and in capacity produced a net operating income over and above the net operating income that would have been experienced if they hadn't added the capacity to the investment.

We are talking about adding capacity here, not maintaining capacity.

Q. How do you know, Mr. Simat, what American would have achieved if it had not added capacity during this period?

[Tr. 8149] A. We have the figures for the earlier years of the period.

I am not aware of any developments in the economy, in the climate in which American Airlines and other lines were

Simat—Cross

operating, that would have caused a deterioration in profits, except the addition of capacity.

Q. The fact remains, does it not, that American Airlines achieved a profit in each year in this period? That can only be answered yes, I think, Mr. Simat.

A. It is your question. I think the answer is yes. Let me check.

American Airlines in each of the years from 1959 through 1963 achieved a profit in domestic operations.

In international operations American Airlines lost money in 1959, 1960, 1961.

Q. I think you have already testified, Mr. Simat, that for American the international operations represented in the year that you selected to compare only two per cent of the total, a relatively minor proportion, is that not correct?

A. The total revenues are not great, but that doesn't make the operations any less profitable.

[Tr. 8150] Mr. Tenney: Would you read that back to me?

(The answer was read.)

The Witness: I would point out to you, Mr. Tenney, in this connection, that in the year 1964, American Airlines reported a net profit of \$3,231,000 on total international passenger revenues of \$8,200,000. By just crude calculations that appears to be close to a 40 per cent return per dollar of passenger revenue.

Q. Mr. Simat, what would have happened in your opinion to any airline that in 1959 through 1963 did not acquire jets but simply continued to fly the pistons that it had been flying before?

A. There would have been some loss of traffic.

Simat—Cross

Q. I thought you testified that there were no factors that you were aware of in the economy during this period that could have accounted for any losses other than the increase in jet capacity?

A. I believe that your earlier questions were directed to the industry as a whole.

Q. No, they were not.

A. We are now talking about a single carrier.

Q. They were not. They were addressed to a single [Tr. 8151] carrier, specifically in many instances American. The same way your sentence on page C-II that I called your attention to is addressed to a single carrier, an additional capacity by TWA or by any other carrier.

I am not talking about the industry. I am talking about a single carrier.

A. The record will speak for itself, but my recollection is that the line of questioning that came up earlier had to do with the state of industry and factors that would account for traffic developments within the industry as a whole.

Q. Let us go back to some of those questions then so that we know what we are talking about.

We were talking at one point there about American Airlines. And we are talking about American Airlines in connection with this sentence of page C-II of your report which says and I quote only this part:

"A further addition of capacity by any other carrier would have been even more unprofitable."

I am inquiring as to how unprofitable the historic addition of jet capacity was by a specific airline, in this case, American.

I call your attention again, as I did before, [Tr. 8152] to page 242 of the CAB Handbook showing that American Airlines actually returned a profit throughout this period.

Simat—Cross

A. Perhaps, Mr. Tenney, I can illustrate some of the basic economics here with a rather simple numerical example.

Let's assume a situation where there are only two carriers in the whole wide world and they operate between one pair of points.

And let's assume that each of the airlines is operating 100 seats in the market and each is carrying 80 passengers. The load factor is in each case 80 per cent.

And by any break-even standards, this is a profitable load factor.

Let us assume that things go on swimmingly in this vein, until one of the two carriers decides that it might be desirable to add another flight and to obtain a bigger share of the market. So it does this. It adds another flight, another 100 seats.

It is now offering two-thirds of the capacity in the market, and this should entitle it to two-thirds of the traffic.

There will be 300 seats in the market, instead [Tr. 8153] of the 200 seats, 160 passengers, and the load factors will be 53.3 per cent, probably in terms of just pure break-even point, without considering return on investment and costs of capital, an amount that is sufficient to recover the operating costs of the operation for all carriers in the market.

However, what has the carrier that has added the additional flight wrought? He is now getting two-thirds of the traffic, approximately 107 passengers, in lieu of the 80 passengers he was getting before. So he is adding 27 passengers, but he has added 100 seats and the costs of 100 seats.

So by virtue of the addition of the flight, he has gained 27 passengers, but he has lost a lot of money.

Now, the operation may on an overall basis be profitable, but it is not as profitable to either carrier as it was before.

Simat—Cross

To the carrier that has been stripped of the 27 passengers that the adding carrier has acquired, he is losing the revenue of the 27 passengers.

To the carrier who has added the capacity he is gaining revenues of the 27 passengers but he is adding one heck of a lot of costs.

[Tr. 8154] So nobody gains.

Q. The other carrier lost those passengers while not doing anything at all, isn't that correct, Mr. Simat?

A. That's correct.

Now, let's go through the arithmetic again and have the other carrier recover some of those passengers.

We have our first carrier operating 200 seats now, and the second carrier in the market has decided that he is not to be outdone. So he adds another 100 seats in the market.

Now we have 400 seats in the market. We have 160 passengers divided two ways. That is 80 passengers per carrier. Divide that two ways, and that is 40 passengers per flight.

We are not operating all services at a load factor or 40 per cent.

The carrier has gained back the difference between 80 and—excuse me. Let me calculate that one out.

Mr. Tenney: Off the record.

(Discussion off the record.)

The Witness: It has gained back the 27 passengers and it has cost that carrier the cost of operating 100 seats to gain back that 27 passengers [Tr. 8155] and it has lost money in the process.

Now, ask me should it have done what it did, added the second 100 seats? The answer is no.

It was better off not operating the second 100 seats than operating the second 100 seats.

Simat—Cross

In other words, you do not correct mistakes by making additional mistakes.

Q. In that example that you just gave, Mr. Simat, you made the comparison for the second carrier between—the comparison as to what the second carrier achieved by adding its jet between the number of passengers that it ended up with after these two successive additions of capacity in the same market which was 80 to the figure that it would have had, and, in fact, since you did it in a step process, did for a time have, as a result of doing nothing while the first carrier added its flight, and that is how you got the 27 additional passengers produced by its added flight, that is, the second carrier's added flight, is that correct?

A. That's correct, yes. It is the difference between not doing anything and doing something.

Q. Why did you not compare the number of passengers that it had at the very end of all of this operation with the number of passengers that it had at the very beginning of all of this operation, in which case it would [Tr. 8156] have produced zero passengers by adding a flight?

A. Well, if you want me to make the comparison, I will, but I don't think it is appropriate.

Q. It would be quite unsound to make that comparison, wouldn't it?

A. I can't answer that question categorically.

If you assume a situation where one carrier is free to act and another carrier is not free to act, then the answer is probably yes.

But if you assume a situation where all carriers in the market are free to act, then I'm not sure what the answer is.

In other words, it is a question of whether you have to take into account what the competitive impact of the action will be.

Simat—Cross

Q. I am trying to confine myself to the example that you formulated which was as you explained deliberately simplified, but attempting to take into account competitive factors.

In the terms of your comparison of these two air carriers who are the only two air carriers in the market and they compete on this particular pair of cities, which is, of course, a necessarily simplified assumption, but in terms of your own example it would be [Tr. 8157] quite unsound, would it not, to evaluate what the second carrier achieved by adding its flight through a comparison of what it had before there had been any increases, even by the first carrier against what it had after both carriers had made their increase? That would be an unsound comparison, would it not?

A. That would be true. And it would also be unsound for the first carrier in the market to have added the 100 seats without considering the possibility that the second carrier in the market would add a like 100 seats.

Q. The answer to my question was yes, was it not?

A. With my qualification, yes.

Q. I am going to get a straight answer to my question, Mr. Simat. That's not a qualification you just gave. It is a volunteered statement about something the first carrier you say should have taken into account. The answer to my question was yes, was it not?

A. I think I've answered all of your questions, Mr. Tenney.

Mr. Tenney: Would you read my question back, please?

(The question was read.)

Q. I would like an answer to my question without [Tr. 8158] any volunteered comment as to what the first carrier ought to be thinking about while this is going on.

Simat—Cross

The Special Master: Give him an answer.

A. I believe I said it was true.

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[Tr. 8165] * * * Q. In 1959, as this table shows, TWA flew 1,379,000,000 jet seat miles, according to your table, and 1,146,000,000 jet passenger miles, is that correct, in 1958?

A. Yes.

Q. The marginal load factor that we pointed out a moment ago appears in your table opposite the year 1960, but actually you have applied this as the marginal load factor for 1959 in your computations, have you not?

A. That is correct. We have used the change between 1959 and 1960 to guide us in determining how additional capacity operated in 1959 would be utilized.

[Tr. 8166] Q. Just to look ahead a bit, you do this in each year, do you not? The marginal load factor that you determine and put in your table opposite the year 1961 is the one that you use for calculations of 1960 results and so on down the line. 1962's marginal load factor is used in 1961. 1963 is used in 1962 and 1964 is used in 1963, is that correct?

A. That is correct.

Q. In 1960, before adjustment again, the figures shown for available seat miles for TWA are TWA's actual 1960 figures, are they not?

A. Yes.

Q. The same is true for revenue passenger miles shown for 1960, actual TWA statistics, nothing assumed about them, is that correct?

A. That's exactly correct.

Q. The amount of the assumed capacity increase does not come into your computations until after you have deter-

Simat—Cross

mined this marginal load factor from the actual capacity increase in the subsequent year, is that correct?

Mr. Hayes: I am sorry to interrupt—

A. I am not sure I understand that question.

The Special Master: Read it back, please.

【Tr. 8167】 (The question was read.)

Q. If that is confusing, I will try to restate it.

A. Well, I think I understand the question now.

The answer is that the amount of capacity increase is something that is entirely independent of the calculation of the marginal load factor.

Q. The amount of capacity assumed to be increased?

A. Or assumed to be increased, yes, sir.

Q. The assumed increased capacity for TWA which both you and Mr. Wemple have used for the year 1959 can be found on page V-VII in Volume I of your report. It is Table V-F. I think as a matter of fact it may appear in one of the tables we put in. I think TWA Exhibit 329 and 330 that we put in earlier this morning actually has that figure. It has been the easiest way to look at it.

For 1959, I find that there was an assumed increase of 267.9 million available seat miles of jet capacity for TWA, is that correct?

A. Yes.

Q. Your marginal load factor is determined in this table based on a computation of the results of an addition in available seat miles of 1.640 billion, is it not?

A. Yes.

【Tr. 8168】 Q. Mr. Simat, the assumed increase in capacity in 1959 is only about 19 per cent of TWA's actual 1959 capacity, but you have determined a marginal load factor based on the results of an addition in capacity of, I think it is, 118 per cent.

Simat—Cross

Is that a proper method of computing what would have occurred in 1959?

A. Yes, I believe it is a proper method of computing what would have happened in 1959.

Q. Do you really think that you would have as much of a drop in load factors from a 19 or 20 per cent increase in capacity as you had from 118 per cent increase in capacity?

A. I think that we are within the range of capacity increases where the differences in the marginal load factors are not material.

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[Tr. 8225] . . . Q. Mr. Simat, I notice that that correlation between the B-131B and the B-720-B was by a fair amount the highest correlation in your table on C-26, which is taken from Table XX, and it is by a very considerable amount the highest of the correlations between any two pairs of aircraft that we have been discussing here when the correlations are taken from Table XXI as well.

Can you tell us what in general TWA's experience with the 720Bs in its fleet was? How many were there, in general when it did have them and what the circumstances were when they left TWA's fleet?

A. They were a total of four aircraft all told, and they were in service from July of 1961 through October of 1962.

The aircraft were leased to TWA. The figures I gave you were for domestic services. There is an [Tr. 8226] indication, a footnote to the table that in 1961 .0—excuse me—0.1 aircraft were assigned to the International Division.

Q. When did the Boeing 131B aircraft come into TWA's fleet?

A. The first of the aircraft assigned to service came in in April 1962.

Simat—Cross

Q. By the time that the 720Bs were retired from TWA's service and the lease terminated, how many 131Bs approximately had come into TWA's fleet?

A. In the last month in which there are any recorded B-720Bs, there were on the average 1.8 such aircraft, and in the same month the number of available 131Bs in domestic services is indicated as 17.6.

Q. What was the relationship in point of time between TWA entering into the contract for the purchase of the the 131Bs and its making the arrangements for the lease of the 720Bs?

A. I can't answer that question, Mr. Tenney.

Q. To put it more generally, is it not the case that the 720Bs were leased by TWA to fill in part the needs for jet equipment during the period pending the arrival of the 131Bs for which they made arrangements at approximately the same time?

[Tr. 8227] Mr. Hayes: I object on the ground that there is nothing in Mr. Simat's testimony as to this unless he knows as a matter of fact.

The Special Master: Do you know?

The Witness: I don't know as a matter of fact, no.

Q. If the 720Bs were leased as a stop gap measure pending the arrival of the 131Bs, that would tend to explain why you would get a very high correlation between the additions of 131Bs and the deletions of 720Bs, would it not?

A. If that were so, yes.

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[Tr. 8290] . . . Q. Did that proportion in your opinion increase, decrease or remain the same over the five year period you have studied?

Simat—Cross

A. There was a slight tendency for the proportion to decrease over the five year period from which we concluded that the factor, whatever it was for jet operations was somewhat different from the factor of piston operations, that the average jet passenger would tend to make fewer intermediate stops than the average piston passenger.

At the beginning of the period, however, there were several forces which required, if anything, more stops on the part of the jet passenger than the piston passenger because the jets were operated over a limited number of stage lengths or a limited number of markets. There was some tendency for passengers who might have used direct flights to have rerouted themselves so as to [Tr. 8291] make use of the jet aircraft involving a separate connection or an additional connection over and above the connection that they would have made if there were no jet services available.

The Special Master: Does that indicate there was a strong passenger preference for jets during this early period of jet operation?

The Witness: I think that where the jets were available, the jets were obviously the preferred aircraft. And where it was possible to make connection to jet flights and save time in the process, passengers would reroute themselves.

In those cases, of course, there would be no additional traffic created by reason of the rerouting. It is simply a matter of passengers rerouting themselves.

And if rerouting involved an additional number of miles flown, a passenger flying out of his way to make the connection, this would have a depressing effect on revenue yields. For the same amount of revenues

Simat—Cross

that the airlines would collect, it would have to fly the passenger a greater distance.

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[Tr. 8328] . . . By Mr. Tenney:

Q. Page D-19, the next page has one thing that I found just slightly puzzling, the top of page D-19 which is a revised page.

The sentence says:

“They establish a relatively small spread between the jet and piston aircraft percentages ratios as we would expect and they establish a somewhat higher percentage ratio for piston than for jet aircraft services as we would further expect.”

And I notice that the revision on that page, the only revision was that you changed the word “lower” in the phrase “somewhat lower percentage” to the word “higher” to make it “somewhat higher percentage.”

Was that change a reflection of a change in your computations or a change in your expectations, Mr. Simat?

A. It was a change brought about by the clear light of day.

As I recall my drafting of the original sentence, it was some time around 2:30 in the morning, and sometimes I am not at my best at 2:30 in the morning.

[Tr. 8329] Q. On page D-21, Table D-IX, we have what you have headed “Recalculation of Estimated Net Added Passenger Revenues to Determine the Amount of Overstatement from the use of Faulty Passenger Revenue Yields,” which is a lengthy table in terms of numbers of columns at any rate, and the first three columns after the dates are taken, according to your heading, from Mr. Wemple’s figures.

Simat—Cross

After that, we are dealing with your computations. Is that correct?

A. Well, in the case of column 5, the computations are not mine. The computations were already prepared by the Civil Aeronautics Board. They are the computations of average passenger trip lengths which we derived from the Handbook of Airline Statistics published by the Civil Aeronautics Board.

Q. So this is an actual average trip length of passenger added miles, although you have headed it "Assumed Trip Length," is that correct?

A. That is correct.

Q. The next column is headed "Actual Trip Length of Passenger Added Miles."

That is not an actual trip length, that is an assumed trip length, isn't it, Mr. Simat?

[Tr. 8330] A. That's a calculated actual trip length of the traffic that was added between 1959 and 1963, derived directly from TWA's experience.

To obtain this figure, we took the 1959 passengers carried by TWA and the 1963 passengers carried by TWA and subtracted one total from another to obtain the number of passengers added.

We took the 1959 passenger miles and subtracted those passenger miles from the reported 1963 passenger miles to derive the number of added passenger miles.

Then we derived the added passenger miles by the added passengers to obtain the added distance over which the added passengers traveled.

And that figure is 1453, which is what you would expect if the added traffic were largely carried in jet aircraft.

Q. You have applied that 1453 in each of the five years, 1959 through 1963, without any change, is that correct?

Simat—Cross

A. Well, the 1453 is the average for the 1959-1963 period, and for purposes of this calculation we have used the period average and applied it to each of year of the period.

Q. If you tried to compute this figure in the manner [Tr. 8331] that you have described on an annual basis by comparing each year with the next year, could you do it?

A. It could be done. And I would anticipate that in lieu of the amount shown here of 1453 miles each year of the period, we would have a decreasing series, where in 1959 the trip length of added passengers was substantially higher than the trip length in 1963. And if I carried the calculations out on that basis, I think you would find that the column headed "Mr. Wemple's Overstatement of Net Passenger Revenues in Miles" column 9, would be higher for the years 1959 and 1960, somewhat lower for the years 1962 and 1963, and the total effect of introducing an annual average trip length would be to increase the amount of the overstatement from 4.6 to something higher.

Q. In 1960, as opposed to 1959, TWA had a decline in revenue passenger miles.

There was also a decline between those two years in originations.

You have the phenomena from 1960 to 1961.

If you applied your method in those two years to obtain an annual figure, what kind of result would you get?

A. I don't think you could apply the same method [Tr. 8332] to data for the years 1959, 1960 and 1961, since during this period, as I have testified and as you have now stated, there was an absolute decline in the amount of traffic carried by TWA, notwithstanding the addition of considerable jet capacity.

To make the calculations on an annual basis, I would—for this period—I would go to the detailed information

Simat—Cross

which has now been furnished us by TWA indicating the on-line trip length and the flight stage length of passengers that were actually carried by TWA in jet services.

We now have the information we did not have earlier, which enables us to get behind divisional averages and totals.

From the information that we now have we are able to make a better approximation or a better estimate of the average trip length of added traffic year by year for jet aircraft. In fact, we can do this for each type of jet airplane.

Q. If you performed this annual computation from 1959 to 1960 and 1960 to 1961 using the method that you described and carried out the arithmetic, in spite of the fact that TWA had a decline in those years in originations and passenger revenue miles, by your method wouldn't you come out with a negative yield figure with TWA paying the [Tr. 8333] passengers to travel on it?

A. I think we have another version here of a parable.

It was once true, Mr. Tenney, that Capital Airlines had a negative investment. In other words, it was on a deficit in its investment account and it was also true that they lost money for that year. And some witness divided the operating loss by the investment base which was negative and concluded that Capital had the highest rate of return in the industry.

The reason for that is when you divide one negative by another negative you get a positive.

Q. But doesn't the fact that it cannot possibly be used on an annual basis during much of this period indicate that this method that you have used to select a single figure which you call actual trip length of passenger added miles for each year of the five-year period is a completely unsound method?

A. Not so, Mr. Tenney.

Simat—Cross

The obvious fact which you can observe from column 5 is that the average trip length of passengers during this period was increasing. It went from 892.6 miles in 1959 to 942.3 miles in 1963.

And algebraically I know of no phenomenon that [Tr. 8334] would explain that increase in average trip lengths, save the fact that the added passenger traveled at a somewhat higher average trip length than the passengers that we started out with in 1959.

In other words, to bring the average up you have to add something at a higher value than the average.

There are varying ways of determining what the trip length is of an added passenger. In those years where there was an absolute decline in the volume of passengers and passenger miles, algebra fails you.

However, there are ways of obtaining, even for those years, the trip lengths of added passengers. And if you look at the entire period from 1959 to 1963, it is possible, using simple algebraic calculation, or arithmetic calculation, I should say, to compute the average trip length of the added passenger.

The figure that appears when you make that computation is 1453 miles. That is the trip length which explains the difference in the average trip length experienced by TWA's passengers between 1959 and 1963.

And to my mind, it is not an unreasonable figure.

Q. But to summarize, in part, this figure when you apply it in each year in this five-year period without change, isn't it true, Mr. Simat, that there is nothing [Tr. 8335] whatsoever actual about it; that it is instead an example of a variable constant added to your work to come out with a predetermined answer, otherwise known as the finagle factor?

Simat—Cross

A. It is certainly true, Mr. Tenney, that the 1453 miles does not—is not the added trip length for each year of the period. It is the average for the entire period.

And I have testified that if we determined as we now can more accurately the figure for the added trip length for each year of the period, we would find that it is higher for '59, 1959, than it is for 1963, and that if we made the adjustments in Table D-IX on that basis, that we would find that the overstatement in Mr. Wemple's estimates were even greater than we estimate in column 9 of the table. . . .

[Tr. 8400] . . . The Special Master: As long as you were interrupted in your argument by me, Mr. Hayes, let me ask you, suppose Mr. Simat next spring should [Tr. 8401] after more cross-examination, develop another theory which he thought was even more accurate to express his views, how would you feel about that?

Mr. Hayes: I think that if I were in your shoes I would say you've had time enough to think up your best one.

The Special Master: You think three bites is enough?

Mr. Hayes: No, it is only two bites. The second was merely correction.

The Special Master: The first and then revision and substitution?

Mr. Hayes: The second is not a bite.

The Special Master: Do you, Mr. Simat, look on this as a substitution for your—what will be the status of your present report if this report is allowed?

Simat—Cross

The Witness: I think I testified earlier and I still feel that the revenue estimates produced by this second round would be far superior and more reliable than the revenue estimates produced by the first round.

The Special Master: Let me ask you, either you or Mr. Hayes, whichever one decides, your pre- [Tr. 8402] sent report comes up with the idea that TWA would have lost millions of dollars if it had had these additional planes.

Do you think it is reasonable to expect that your supplemental report will show that TWA would have come up with some profit, that there would be \$50 million difference between your present estimates—60 million between your present estimate and revised estimates? What help is it going to be to me to have a supplemental report which shows that instead of losing \$60 million under these assumptions TWA would have lost 70 million or 100 million or 30 million or would have broken even, not had any profit? That is really my problem.

Mr. Hayes: I think it amounts to this. You are sitting as a master in a damage hearing. What we have so far tendered is merely a critique of plaintiff's expert witness, with the reasons given as to why in our expert's opinion his assumptions can't be accepted; and with adoption—with the application rather to the plaintiff's expert's methodology of refinements that our expert thinks should be made before it could be accepted.

The second report is taking a new, fresh [Tr. 8403] look based not on divisional averages, not on assumed data.

Simat—Cross

For example, the assumption that Mr. Wemple indulges with respect to how many flights there would be in the International Division without telling us where they are going to fly. He did not study that or anything else, without telling us what areas they would be put in or where they would be put in or anything about them.

Now what is proposed is that on the basis of what TWA actually did—

The Special Master: I understand that.

Mr. Hayes: —flight by flight—

The Special Master: Let me—

Mr. Hayes: To answer your question if I may—I don't think I have answered it—

The Special Master: I don't think you have either.

Mr. Hayes: That's what I would like to do. This is merely preliminary.

The Special Master: Right.

Mr. Hayes: I think from your position as a master on a damage hearing you would want to know what is the best estimate that can be made based [Tr. 8404] on the actual facts regardless of what the result would be. I can fully understand Mr. Simat sitting here can't tell you what is is going to come out with. He has not finished it.

The Special Master: Let us take a couple of hypothetical situations. Suppose Mr. Simat came out with the result in a supplemental report on his refined figures that TWA would have lost \$120 million instead of \$60 million, what difference as a practical matter would that make in the case?

Mr. Hayes: I think as a practical matter that would make this difference to you, that on a detailed study assuming it stands up there couldn't possibly

Simat—Cross

be any award of damages here. There is nothing to compromise.

The Special Master: Isn't that true on the present—

Mr. Hayes: We think the present report tends to establish that the calculations put in by plaintiff are not reliable, but the second report would show what are reliable calculations and there would be a much firmer basis for a conclusion by you that there couldn't possibly have been the damages claimed. That is the big difference it [Tr. 8405] would make.

The Special Master: That would seem to throw considerable doubt on your mind on the validity of the present report.

Mr. Hayes: No, it does not. I don't at all even suggest that there is any lack of validity in the present report.

I am thinking rather of a record that we must make here first for you and then for the courts beyond, and I am thinking chiefly of the best evidence for this case. This is what I am driving at.

The Special Master: So am I. I want to make it very clear on the record that I in view of the large amounts involved in this case, I want to give the defendants more than what I think is reasonable time to develop their expert testimony in this matter, and I am trying to lean over backwards in that respect.

On the other hand, I recognize we have to come to the conclusion some time.

You say that this should be the last bite, the third bite. Mr. Tenney says the second bite is enough.

I realize there is tremendous cost to both [Tr. 8406] sides involved.

Simat—Cross

I still can't quite get through my head why Mr. Simat, having presented this report showing that TWA would have lost \$60 million on these assumptions as to why—and you stand on that report as being the judgment—because Mr. Simat has said very firmly that in his opinion even aside from the results, his study has shown that he thinks that all the surrounding facts and circumstances and background support his conclusions. If his conclusions are accepted at face value, TWA not only has no case, but as I said facetiously the other day, they owe Mr. Hughes quite a lot of money.

But what I mean to say is that the gap is so wide there, before you could come to a conclusion that TWA was damaged, if you are going to accept Mr. Simat's testimony, that a ten per cent change in the figures, 20 per cent, I believe, change in the figures would still come to the same conclusion, that under no circumstances is TWA entitled to any damages here.

So I don't want to waste your time or the plaintiff's time or the Court's time or anybody else delaying the matter for another year, six months to [Tr. 8407] a year, as I think Mr. Tenney expressed it, if I can't see any possibility of there being a change in your general conclusions.

Mr. Hayes: If I knew which I don't, and I am not inquiring because I have no right to make—

The Special Master: In other words, how can you do anything except help TWA in a new report, by showing that the loss wouldn't have been as much as you thought? Because it certainly won't do much good as I see it at the moment to say TWA would have lost 70 million instead of 60 million.

Simat—Cross

Mr. Hayes: I couldn't agree with you more, Mr. Brownell. . . .

[Tr. 8431] . . . By Mr. Tenney:

Q. At the end of our session on Tuesday, Mr. Simat, we had gone over some information as to Pan American and other carriers, equipment position in 1959. I would like to turn to the next year 1960.

You testified that by the end of 1959 Pan American had received 21 jet aircraft, and that TWA had received four of its international type B-331s.

Can you tell us what Pan American received in terms of jet aircraft during the year 1960, mentioning types if you have them available?

A. I have before me a summary table which does not provide information as to the type of aircraft beyond a general description of the manufacturer and the overall model number.

And according to the figures that I have before me, as of December 31, 1960, Pan American had 29 Boeing aircraft of the 707 variety, and this was an increase of eight over the number of aircraft it had on hand at the end of December 31, 1959.

Pan American further had 17 DC-8 aircraft, Douglas aircraft, for a total of 46 aircraft. And the [Tr. 8432] 46 at the end of 1960 compares with a total of 21 aircraft at the end of 1959, all of which were Boeing.

Q. I think perhaps you know this of your own knowledge, Mr. Simat, even though the model numbers are not set forth in greater detail in that table.

Of those eight additional Boeing 707 type aircraft received by Pan American in the year 1960, it is true, is it not, that three of them were Boeing 707-331s, originally constructed to TWA's specifications?

Simat—Cross

A. It sounds right, Mr. Tenney, but I do not have the figures before me to confirm it.

Q. Can you tell us how many additional intercontinental type jet aircraft TWA received in 1960?

A. Again, I will have to consult another source for that. According to the figures before me, TWA had 19 Boeing aircraft in 19—at the end of 1959, and a total of 27 at the end of 1960.

That is a net gain of 8. I would have to consult another source to determine the type numbers of those 8 aircraft.

Q. I think that from the Coverdale & Colpitts report—and in fact I think we covered this on Tuesday—15 of those aircraft in both years were Boeing 707-131s, not used in transatlantic service.

[Tr. 8433] So that all 8 of the increase in 1960 were of the 331 type?

A. Yes, that has been called to my attention as something that appears on page 10 of the Coverdale & Colpitts report.

Q. In 1960, therefore, Pan American took delivery of a total of 25 additional jet aircraft usable on its intercontinental routes, while TWA took delivery of an additional 8 such aircraft, without regard to the specific manufacturers or precise model numbers.

Yet on page E-5 of your report, it appears, does it not, that during 1960 TWA was able to increase its percentage of available seats offered as compared to Pan American's available seats offered from 53 per cent to 72 per cent.

That is what your table shows there, does it not, Mr. Simat?

A. Yes.

Q. On Tuesday we put in TWA Exhibit 337 which gives the ratio in a slightly different form as Pan American to

Simat—Cross

TWA, and it shows that the ratio of transatlantic seats offered by Pan American to those offered by TWA dropped in 1960 to 1.39 from a figure in 1959 of 1.89, which is just a different way of expressing the same [Tr. 8434] proportion, is it not, Mr. Simat?

A. Yes.

Q. Doesn't this change in the proportion of seats offered between those two airlines at a time when Pan American was taking delivery of far more aircraft than TWA was—doesn't this change in proportion indicate that Pan American found it necessary to use many of its jets on other routes and could not concentrate on a competitive response to TWA in the transatlantic market?

A. It could mean various things, Mr. Tenney.

It could mean that Pan American decided that the capacity in the transatlantic market was already excessive, and that a further investment of equipment in the transatlantic market would not have been economic for it.

Q. Do you see from these statistics any support for the theory that Pan American in 1960 was engaging in competitive response to TWA's increase in transatlantic service?

A. Yes, I note that between 1959 and 1960, Pan American increased its seating capacity in the transatlantic market from 472,000 to 537,000, an increase of approximately 25 per cent.

Q. The approximate increase in TWA's seats offered from 1959 to 1960 was on the order of approximately 70 [Tr. 8435] per cent I make it by eye. Is that about right, Mr. Simat?

A. Your eye is pretty good. It is within 1 per cent of what I calculate on my slide rule.

I also note, Mr. Tenney, that the total number of IATA passengers increased approximately 25 per cent between 1959 and 1960.

Simat—Cross

Q. One of the assumptions that we are operating under in all of these estimates is that six of the jet aircraft that Pan American would have had at the end of 1960, that is, the six Boeing 707-331s that we have referred to would not have been in Pan American's fleet but would instead have been in TWA's fleet, is that not correct?

A. That is one of the assumptions, yes.

Q. Moreover, an additional assumption that we are making in these estimates is that delivery dates of these aircraft as between Pan American and TWA would have been reallocated with more of the earlier delivery positions going to TWA and fewer of the earlier delivery positions going to Pan American, is that not correct?

A. If by these aircraft you mean aircraft of the Boeing 331 type, the answer is correct.

It is not, of course, correct with respect to [Tr. 8436] the six aircraft.

Q. If TWA with the historical proportion of aircraft available to it was in 1960 able to increase its percentage of total available seats offered in transatlantic service as compared to Pan American to 72 per cent, is it not reasonable to assume that our reconstructed TWA, as we sometimes call it with six more jet aircraft of the proper type and all of its aircraft of this type having their delivery dates somewhat affected in a favorable direction by that second assumption would have been able to schedule substantially more proportionately jet seats as compared to a Pan American that under these same assumptions would have had fewer aircraft on a somewhat slower timetable?

A. The answer is not necessarily so, and maybe to make it more precise, no.

The fact is that Pan American did have aircraft deployed in other divisions which could have been switched to the

Simat—Cross

Atlantic Division. Pan American had various other options on the operation of aircraft, all of which would have permitted Pan American to increase its volume of service on the transatlantic sector over and above the service that it actually supplied in 1959 on the same sector.

【Tr. 8437】 Q. In terms of jet aircraft, as opposed to piston aircraft, what options did Pan American have that would have made the conclusion I suggested a moment ago an unsound one in your view?

A. My earlier statement did refer to jet aircraft. If I didn't make that clear, let me make it clear now.

Q. Then would you explain what the options were that you referred to?

A. Well, during the year 1960, Pan American had a total available fleet on the average of 32.4 aircraft, these are four-engine jet aircraft, of which a total of 16.0 or somewhat less than half were deployed in the Atlantic Division. That left a remainder of some 16.4 aircraft deployed in other divisions which could have been deployed in the Atlantic Division if need be.

In the same year, TWA had all told a total of 6.1 four-engine jet aircraft assigned to its international services.

So there was on hand as far as Pan American was concerned a substantial reserve of four-engine jet aircraft which were available to be switched into the Atlantic Division if management had so decided.

Q. But on our assumption, of course, that reserve would have been substantially less by perhaps six aircraft?

【Tr. 8438】 A. I referred, Mr. Tenney, to average numbers of aircraft for the entire year, and not the number of airplanes on hand at the end of the year.

And I pointed out earlier that there are material differences between the average numbers of aircraft available during the year and the average numbers of aircraft—the actual numbers of aircraft available at the end of the year.

Simat—Cross

If, for example, every airplane in the fleet were received on December 30th, the actual average number of aircraft available during the year—and let us assume a fleet of ten airplanes is received on December 30th—it would be in the order of 20 days divided by 365 or by quick arithmetic something about 6 or .6 or .7.

Q. Have you computed what the average number of aircraft during the year 1960 for Pan American would be if you took into account the assumptions that we are operating under?

A. No, I have not made that calculation, but I will. It is a calculation that can be made from the receipt dates of the airplanes after allowing for an inservice lag to put the dates on all fours with the dates that are reported to the Civil Aeronautics Board. There is, of course, a difference in the counting of [Tr. 8439] aircraft days between the information reported to the Civil Aeronautics Board and the information maintained internally by TWA.

In the case of the Civil Aeronautics Board information, the starting date, the date when the meter started running on aircraft days is the date that the airplane is placed in service, in transport service. It is not the date when it is available for service.

And there is a lag which I would estimate is normally on the order of approximately ten days between the in-service date and the availability date.

Q. I think perhaps there is another way that this can be computed without much difficulty.

Isn't it true that the amount of the annual average jet aircraft available for service to Pan American would be decreased by the operation of these assumptions in 1960 should be the same as the amount by which the annual average of airplanes of this type available to TWA in 1960

Simat—Cross

was increased? We are just talking about the same aircraft switched over and certain delivery assumptions.

Is that not correct?

Mr. Hayes: May I have that question, please?

[Tr. 8440] The Special Master: Read it back.

(The question was read.)

A. Yes, that's approximately correct with the difference that the method of counting aircraft days by the Civil Aeronautics Board is a little bit different than the method of counting aircraft days that is used in the Coverdale & Colpitts report and used internally by TWA.

Q. I find on Exhibit D of Volume IV of the Coverdale & Colpitts report the figure given of an additional 5.0 B-331 jet aircraft available for commercial service to TWA during the year 1960, and that figure is given as an annual average.

So that while there might on the basis of the slight difference in computation that you refer be a slight difference there, we are talking approximately about 5.0 aircraft fewer on an annual average basis available to Pan American in 1960, are we not?

A. Yes.

Q. Is it your opinion that Pan American in 1960 would have allowed the effect of any equipment shortage that it might have felt it had to be concentrated upon those parts of the worldwide system other than the transatlantic routes?

[Tr. 8441] The Witness: May I have that question read back?

(The question was read.)

The Special Master: Is that clear to you?

The Witness: I think it is clear to me now.

A. I don't think there is much doubt that Pan American if it felt it was suffering from an equipment shortage would

Simat—Cross

have placed the bulk of its equipment in the Transatlantic Division.

In point of fact, the Atlantic Division is where Pan American first put its jets.

In the year 1959, for example, Pan American had on hand during the year an average of 7.7 jets on a system-wide basis. Of these 7.7, 6.3 were put in the Atlantic Division.

Q. Wouldn't Pan American be jeopardizing its worldwide good will if it extended beyond a limited period of time the period during which it did not offer adequate service on its worldwide routes other than the North Atlantic?

A. I am afraid I don't understand what you mean by Pan American's international good will.

[Tr. 8442] Q. Pan American's routes are as you have testified and as, of course, is on the record in other context here worldwide and have been for decades.

It is true, is it not, that Pan American has attempted for decades to build up a worldwide route system and good will on a worldwide basis among potential passengers seeking to create a clientele that will turn to Pan American in preference to other air carriers for air transportation?

A. Oh, I'm sure that as a matter of company policy, it is a policy of Pan American to attempt to obtain as much traffic as it can from the various points it serves.

However, this is a policy that has to be tempered by the availability of aircraft and by general economic conditions.

For example, for many years Pan American ran from London what is known as a change of gauge service to the Scandinavian countries. It did not even operate a through-plane, that is, a single plane on which the passenger could sit and get all the way to the Scandinavian countries. They operated a plane across the Atlantic to London, where a change was made to a small DC-3, later a DC-4, neither

Simat—Cross

plane pressurized even to supply services to the Scandinavian countries.

[Tr. 8443] I might point out that the Scandinavian rights came to Pan American at a fairly high cost, since they had to acquire American Overseas Airlines to obtain those rights, and as part of the—I guess you would call it the package—they had to suffer TWA's entry into London and Frankfurt, two markets where TWA was not previously certificated.

Q. In this London to Scandinavia route that you refer to during the period that Pan American was using DC-3s and DC-4s on it, what other airlines were operating on that route with more advanced equipment?

A. Scandinavian Airlines System otherwise known as SAS was operating through-plane service from the Scandinavian countries to New York throughout this period, with the most modern four-engine equipment available.

Q. No American airline, of course, was servicing Scandinavia at all at that time?

A. Pan American had the exclusive U. S. flag airline rights to the Scandinavian countries, and still has.

Q. Of Pan American's jet fleet in 1959 and 1960, six we have established earlier consisted of Boeing 707-100 series aircraft, which were the earliest jet aircraft [Tr. 8444] delivered to Pan American.

On Atlantic service, it was necessary, was it not, for those aircraft to plan a fuel stop at Gander?

A. I believe that was true in one direction only.

Q. Occasionally stops had to be made in the other direction as well, did they not, depending, of course, on weather conditions?

A. Yes, depending upon weather and load conditions occasionally stops had to be made in the other direction.

Simat—Cross

But the stop in the other direction was made at Prestwick.

Q. When the 707-300 series aircraft went into service, did Pan American continue to use the 707-100 series aircraft on Atlantic service or did it transfer them to its other routes?

A. I really don't know the answer to that question, Mr. Tenney. It is something I would have to look up. I can look it up and give you an answer later, if you wish.

Q. I don't know that that will be necessary. Let me state as an assumption for some further questions what I believe to be the fact, and you can, of course, if on checking it, subsequently you find me to be incorrect, correct this.

[Tr. 8445] But as an assumption for further questions, I believe it is correct to say that Pan American transferred its 707-100 series aircraft to other routes shortly after the 300 series became available, although there was up to the beginning of 1960 some slight amount of service offered with those aircraft. On the whole, they were transferred to other routes.

Those aircraft, the 100 series aircraft would not be satisfactory for the transpacific routes, would they?

A. Again, it is not a question that I can answer categorically.

I would believe that they would be satisfactory for the Hawaiian service where the non-stop stage length is about 200 miles.

Beyond Hawaii, where the non-stop distances are much larger, I would guess that they would not be satisfactory.

But, of course, the Hawaiian service comprises a very substantial part of Pan American's Pacific operation.

Q. At least beyond Hawaii, it would have been necessary, would it not, if Pan American had chosen to transfer its long-range Boeings, or other available [Tr. 8446] long-

Simat—Cross

range jet aircraft, to the North Atlantic routes in 1960—it would have been necessary, say, for Pan American to accept that competitive foreign airlines and particularly Qantas, BOAC and JAL, to be the airlines that would first introduce jet service to those transpacific routes?

The Witness: May I have that question read, please?

(The question was read.)

A. I just don't understand the question.

The Special Master: It would have been a necessary result that Pan American would have had the BOAC, Qantas and Japanese Air Line jets running on the Pacific and Pan American would not have been there with jets.

The Witness: I would again have to refresh my recollection on this, Mr. Tenney, but I believe that that was the case, that BOAC and Qantas jets were in operation before Pan American put its jets in transpacific routes. Of course, the Japanese Air Lines services supplied in the transpacific area were in that period very moderate.

By Mr. Tenney:

Q. On page E-7, you state, Mr. Simat, at the top [Tr. 8447] of the page—it is a carry-over sentence, but it is on page E-7 that the language appears I would like to call your attention to.

You refer to the years 1959 to 1960, and you describe them as a time when the industry was facing tremendous over-capacity.

In 1959, there was no over-capacity, as least in terms of jets in the industry, was there, Mr. Simat?

Simat—Cross

A. I don't believe that over-capacity can be reckoned in terms of any one particular airplane.

The over-capacity situation results when there is too much capacity overall for the traffic demand.

The fact that one particular type of airplane may appear in the inventory in very moderate numbers does not mean that an over-capacity situation does not exist.

For example, there can be an over-capacity situation today, although the DC-3 is perhaps operated at a level of one per cent of the total seat miles provided by domestic airlines. That doesn't mean that the DC-3 is not in an over-supply situation.

So, I don't think that I can answer that question as it relates to jets alone. There was an over-capacity situation in the industry as a whole.

[Tr. 8448] Q. We established, however, on Tuesday, did we not, that at least with respect to the airlines that we looked at, Pan American and TWA jet load factors in 1959 were quite high by any standards?

A. That, of course, Mr. Tenney, does not signify that an overcapacity situation did not exist, if it were true that all of the traffic carried in jet airplanes were passengers that would otherwise have been carried in propeller aircraft that the high load factors on the jets themselves do not signify that any additional traffic was brought into the market on that operation of the jets on top of all of the other capacity being offered by the airline as an economic thing.

Q. So you are unable with respect to 1959 to judge whether the industry had over-capacity in terms of jet capacity alone, is that the substance of what you are now saying?

A. I am saying that the fairer test is whether the industry with the capacity that it was offering in 1959 was able to conduct a profitable operation overall.

Q. In your opinion then, in 1959—and I take it that you would apply this theory to subsequent years as well—and you can correct me if I am wrong—you can only judge [Tr. 8449] whether there is an over-capacity by grouping jets together with pistons to determine whether there is an over-capacity, is that a fair statement?

A. I think the fair statement is that you have to consider the entire supply of capacity and the entire demand for capacity in determining whether there is an over-capacity situation.

Q. So just to wind that little point up and take some of these assumed examples with exaggerated numbers that we have taken from time to time to clarify positions, if there are only a very few jets and they are flying at 90 per cent load factors which undoubtedly means that many times there are people that would like to fly on those planes and are unable to do so, because the 90 per cent load factor is an average figure, but there are a lot of pistons, a lot more pistons than there are jets and they are flying, let's say, to exaggerate, 20 per cent load factors, you would say that the industry was facing a position of over-capacity, and you would not think of it a fair thing to do to segregate the jets and consider whether there was over-capacity in terms of jets or not?

A. I believe that the fairer test would be to determine the revenues added by the additional capacity [Tr. 8450] offered on jet aircraft against the expenses added by reason of the operation of the aircraft, and if the expenses are greater than the revenues then you did the wrong thing in adding the airplane, and if the revenues are greater than—the added revenues are greater than the added cost, you came out like a bandit.

Simat—Cross

The point is that an over-capacity situation is defined in terms of whether it is possible to conduct economic operations as a result of the capacity added.

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[Tr. 8456] * * * Q. On page E-7 there is a table in your record which is headed "E-IV," which sets forth what you term flights added first in the second quarter and then in the third quarter of the years 1960, 1961, 1962 and 1963 for TWA, Pan American and foreign flag carriers grouped.

Can you tell me whether in this chart all types of jet and pistons are combined or whether it is solely jet flights?

A. I believe these are all flights, jet and piston combined.

Q. When you say flights added in the second quarter [Tr. 8457] ter for example, do you mean flights added over the same quarter in the preceding year or do you perhaps mean flights added over the next preceding quarter?

If that is not clear, for example, in the second quarter of 1960, you have a figure of 322 flights added. Is that 322 more than the second quarter of 1959 or is it 322 more than the first quarter of 1960? You do not expressly state which.

A. It is the first quarter of 1960. * * *

Q. I show you TWA Exhibit 338 for identification, Mr. Simat, which is an exhibit that we have prepared from TWA Exhibit C and C5 which is in evidence and which sets forth IATA monthly statistics.

This table compares the flights on the other basis and not the one that you did; that is, this table sets forth the absolute number of flights flown by Pan American and TWA in each of the months specified and then computes the difference month by month and quarter by [Tr. 8458] quarter from the corresponding month and corresponding quarter in the preceding year.

In this table, we find that in the second quarter of 1960 TWA increased the number of flights that it flew across the

Simat—Cross

Atlantic by a net of one starting with 18 fewer in April but increasing to 13 more in June, while in the same period of time Pan American decreased its flights for a net of 152 flights in the quarter.

Doesn't that illustrate that Pan American was not following the theory of competitive response, at least during that quarter, in scheduling its jet flights across the Atlantic.

The Witness: May I have that question read back please?

The Special Master: Sure.

(The question was read.)

A. I do not believe that you can use data of this kind to establish the degree of competitive response.

I deliberately steered clear of making year to year comparisons because of a number of factors that can change between the years.

I think in measuring the degree of competitive responsiveness, the method that we used of comparing the change from quarter to quarter during the buildup of [Tr. 8459] the seasonal peak is a much more meaningful measure than the kind of comparisons that result from taking the differences between flights in the quarter of one year and the same quarter of another year.

I note, for example, that in the third quarter we seem to have a reverse phenomenon with Pan American increasing flights and TWA decreasing flights, and I think it would be scarcely possible to conclude from these data that there is no competitive relationship between Pan American and TWA.

Q. Do you happen to know the time when Pan American's DC-8 jets were delivered to it in 1960, that is, the approximate dates during that year?

Simat—Cross

The Special Master: Can you refresh his recollection on that?

Mr. Tenney: Your Table E-A has some information.

A. Yes, I was about to point that out. It does have some of the information that you are asking for.

The Table E-A which appears at Page E-A-1 indicates that in June of 1960 Pan American had nine DC-8s in its system and all nine were assigned to the Atlantic Division.

That information is derived from a Pan Ameri- [Tr. 8460] can exhibit in the transatlantic renewal case Docket 13577.

Q. If those aircraft had come in rather shortly prior to that date, that would tend to explain, would it not, the increase in flights flown by Pan American in the third quarter of 1960 over the second quarter which appears in TWA Exhibit 338 for identification.

A. Well, I suppose to the extent that more aircraft assigned connote an ability to operate more frequencies, that would be true. It would scarcely explain the decline in Pan American's operations between the second quarter of 1959 and the second quarter of 1960 where the flights declined 152. The number of aircraft assigned to the Atlantic Division of Pan American did go up over that period.

According to my figures and again quoting from Exhibit E-A, in June of 1959, there were six Boeing 121 aircraft available in the Atlantic Division, in June of 1960, there were 13 Boeing 321 airplanes available and nine DC-8s available.

So there were a total of 22 aircraft available in June of 1960 as opposed to six jet aircraft available in June of 1959. And I would assume therefore there was a much greater capacity available in the [Tr. 8461] second quarter of 1960 than in the second quarter of 1959.

Simat—Cross

Sheer availability of airplane doesn't explain the behavior of the flights, which in the second quarter of 1960 decreased some 152 flights over the second quarter of 1959.

Q. Are those figures in the table on E-A-1 average figures or are they end of period figures? Do you happen to know, Mr. Simat?

A. The answer is that I do not know precisely. I assume that they are end of period figures.

The Special Master: What were those figures as to types?

The Witness: In June of 1959, there were six aircraft available of the 121 series, that is the smaller Boeing with the shorter range.

In June of 1960, there were 13 airplanes assigned to the Atlantic Division of the longer range 321 series, plus nine DC-8s which also had transatlantic capabilities. So there were 22 airplanes available.

And the figures indicate that the decline in flights operated—

The Special Master: I get that part, yes.

[Tr. 8462] Q. And those were year and figures. So that if the DC-8s had come in very shortly before the end of that period, they would not be expected to have performed any significant amount of service in the second quarter, is that correct?

A. Yes, there were also, as I pointed out, 13 Boeing 321 aircraft available.

Q. Yes, I realize that.

I notice also that the six 100 series aircraft had by this time apparently been transferred from the Atlantic Division to other routes as far as this table indicates.

A. The Boeing 121 aircraft as you indicated were no longer assigned to the Atlantic Division, apparently replaced by the Boeing 321 and the DC-8.

Simat—Cross

Q. The total flights in your table on page E-7 and also the total flights in TWA Exhibit 338 for identification include piston flights and do not break out jet flights, so that the increased number of jets might have been accompanied by a substantial decrease in piston flights on the part of TWA, might they not? I mean on the part of Pan American, might they not?

The Special Master: You can't tell from this table.

[Tr. 8463] The Witness: His question is might and the answer is yes they might have but from this table you can't tell as you point out.

Q. If you look at Table E-VI on page E-11, a comparison which breaks out the pistons and the jets can be made.

Taking for example, July of the years in question which appears to be the closest date that we can pick, we find that in 1959 Pan American flew 29 piston weekly transatlantic round trips, and 24 jet weekly transatlantic round trips, while in July of 1960, the figures were nine piston weekly transatlantic round trips and 50 jets.

So that although these dates do not precisely correspond, it is a reasonable assumption, is it not, that from year to year Pan American had drastically decreased the amount of its piston service on the transatlantic routes, is that correct?

A. Oh, yes, Pan American did decrease its piston operations on the transatlantic routes as did TWA, where the decrease is from 45 flights piston flights in July 1959 to six piston flights in July of 1960, one fewer piston flight than was operated by Pan American.

Q. Starting on page E-8, you have a general discussion of the competitive reaction in 1959 as to which we had some testimony already today and the day before yesterday, in the first sentence under "Competitive

Simat—Cross

Reaction, in 1959," you make the statement that you conservatively estimate that foreign flag carriers would not have responded competitively with additional seats in 1959.

In 1959, in your judgment, was it possible for foreign flag carriers to respond competitively with additional jet seats in 1959?

A. According to the data which I have—and the data derived from the Digest of Statistics—they are compiled by the International Civil Aviation Organization, ICAO—foreign air carriers had on hand—and I am referring now to foreign air carriers that are competitors of TWA and Pan American—foreign air carriers had on hand at the end of 1959 some 30 jet aircraft.

And I would from these figures conclude that it was possible for foreign air carriers to have supplied additional jet capacity.

Also, it was possible for foreign air carriers to have increased their piston capacity. Since piston aircraft were operated at a fair differential, it was possible by use of night services, by additional fre- [Tr. 8465] quencies, for foreign air carriers to have increased their participation in the market by adding to their piston services.

So the answer is yes, they could have increased not only their jet seats but also their piston seats as well.

Q. The fact is, however, that to a considerable extent in your judgment that they could have added additional seats, you were relying on the ability to add piston seats as a competitive response to the assumed addition by TWA of jet seats, is that not correct, Mr. Simat?

You have mentioned the piston seats every time we brought this up.

Mr. Hayes: I think he mentioned both in his last last answer, Mr. Tenney.

Simat—Cross

Maybe to keep the record straight what I should do is object to the question in that it misstates his testimony as is apparent from the last answer.

The Special Master: Will you rephrase your question?

Mr. Tenney: I will go at it a little different way. [Tr. 8466]

Q. How many carriers are you including in this group of carriers that you said were competitive directly and had 30 jets on hand at the end of the year 1959?

A. Four.

Q. Which four are they?

A. The four are BOAC, Air France, Sabena and I have Qantas in the totals too.

Q. There are a number of air carriers, foreign flag air carriers operating on those routes that did not have jets, is that not correct?

A. Oh, that's correct, yes.

Q. What did Sabena have at the end of the year?

A. One.

Q. Was it in revenue service?

Mr. Hayes: Was it what?

Mr. Tenney: Was it in revenue service?

My information indicates that it was not.

A. My source does not indicate whether it was in revenue service or not, if you are testifying to it.

Q. No, I am not testifying to it. I am asking you the question. You do not know the answer, is that correct?

A. Well, my source does not indicate whether it is [Tr. 8467] in revenue service or not.

Q. How many did Air France have?

A. Three.

Q. How many did BOAC have.

A. 19.

Simat—Cross

Q. Do you happen to know when Air France got its jets?

A. No, I do not.

Q. Do you happen to know during what part of 1959 the BOAC jets came in?

A. I believe the BOAC jets were available—or some at least were available in 1958. There were at least six aircraft available to BOAC at the end of 1958.

And the balance I believe came in early in 1959.

Q. All of these BOAC jets were the Comet IVs, were they not?

A. That's correct.

Q. None of them were Boeings?

A. No.

Q. Doesn't that indicate that with the exception of BOAC and to an extremely limited extent Air France any competitive response in 1959 by foreign flag carriers to additional TWA jet seats would have had to be [Tr. 8467A] in terms of additional piston seats?

A. No, I do not agree with that at all.

Obviously foreign flag carriers did have jets and they were able to respond with jets. It is simply a matter of degree.

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[Tr. 8473] Q. Have you assumed, Mr. Simat, that Pan American had in 1959 a means of acquiring Boeing 320s on a different schedule than either the historical schedule [Tr. 8474] or the historical schedule as modified by Mr. Rummel's testimony on the basis of certain assumptions? Did you have some other means of acquisition in mind?

A. I have not made any assumption with respect to that.

The calculation that appears at page E-9 is a calculation to show how many additional Boeing 321 aircraft would be

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required to meet the increase in capacity which has been estimated for TWA, the 18,000 seats.

And it is estimated and I believe quite conservatively that this amounts to a total of 0.4 aircraft.

We have assumed for purposes of this estimate that each aircraft would make one flight per day. In point of fact each aircraft can make two flights a day in the transatlantic.

I have in mind, however, that in 1959 Pan American had a total of 7.7 aircraft, of which 6.3 were assigned to the Atlantic Division, leaving a balance of 1.4 airplanes out of which the 0.4 airplane to meet this capacity requirement—and I think it should be substantially less than 0.4 airplanes, but they had 1.4 airplanes to meet a need for 0.4.

So I believe there was ample capacity on the [Tr. 8475] part of Pan American to have supplied the 18,000 seat deficit, if you want to call it a deficit, if they wanted to.

Q. During the first half of 1959, isn't it true that Pan American had available to it only the six Boeing 707-100 series aircraft that it already had, in fact, on the Atlantic Division and that no transfer of those aircraft could have accomplished any increase in service on the Atlantic Division?

A. Well, it is certainly true that there were six Boeing aircraft on the Atlantic Division, but it is not true that they could not have accomplished more transatlantic flights with the six Boeing aircraft.

The six Boeing aircraft were utilized not only in transatlantic services but in services beyond the gateways, that penetrating into Europe. It would have been possible for Pan American to have turned these flights around and accomplished transatlantic flights with the same number of airplanes. That's one possibility.

Simat—Cross

Q. Would that fall under the general head of increased or improved utilization that you discuss somewhat elsewhere in your report?

A. I think it would have the effect of increasing [Tr. 8476] utilization.

If the airplane is used exclusively in the transatlantic service where the stage lengths are very long, the result would be to increase the average utilization per day and hours and certainly to increase it in miles per day.

Operations beyond the gateways were, as a rule, conducted at shorter stage lengths, and in the air transportation field as in most transportation fields it is almost axiomatic that the longer the stage length of operation the better the utilization. The higher the speed, the more the hours per day that the vehicle can be effectively used.

But that is not necessarily the assumption that I am making.

Q. I would like to turn to page E-A-2.

This is the first page of a table which is described on the preceding page as a listing of non-transatlantic flight segments operated by Pan American with jet aircraft where no competitive jet aircraft were in operation.

You indicate at the top or near the top of this first page of the table that Pan American was operating its flight No. 1 from San Francisco to Honolulu with [Tr. 8477] jets and against no jet competition, is that correct?

The Witness: May I have the question read back, please. I am sorry. I think I missed something.

(The question was read.)

A. The flight operated from San Francisco to Honolulu to Tokyo to Hong Kong according to the table. And it is my understanding it had no jet competition on any leg.

Simat—Cross

Q. I note that in April you specify only the Honolulu-Tokyo-Hong Kong legs and you do not commencing in April of 1960 include the San Francisco-Honolulu leg, is that correct?

A. That is correct.

That would indicate that in April of 1960, there was a jet service operated between San Francisco and Honolulu by another airline.

Q. What airline would that be.

A. United Airlines.

Q. Is it realistic to assume that Pan American might have transferred the jet aircraft operating from Honolulu on its flight 1 with pistons while keeping the jet leg from San Francisco to Honolulu?

A. Oh, yes, I think it is quite logical to assume that.

[Tr. 8478] A substantial part of the traffic that would move on a service from San Francisco to Honolulu to Tokyo to Hong Kong would in all probability make a stop-over at Honolulu. That is one of the big attractions of the Central Pacific routing of Pan American, the stop-over at Honolulu and it is well advertised and is considered to be a major factor in Pan American's position in the Pacific area.

Q. The jet would still have to stay on the West Coast to fly the San Francisco to Honolulu leg, wouldn't it? That same jet could hardly be transferred and fly the Atlantic, could it?

A. That particular jet?

Q. That particular jet?

A. Well, perhaps not that particular jet, but the number of aircraft required to operate that particular pattern would be reduced, and by rescheduling the service, by timing it differently and so on, it would be possible in my opinion to free the equivalent of a whole jet airplane from the Pacific Division of Pan American for use in the Atlantic Division. It is simply a matter of rerouting.

Simat—Cross

I also might mention in this connection that if it became desirable to transfer the entire airplane [Tr. 8479] from the Pacific Division to the Atlantic Division that it was possible to do this by the use of the polar route from the West Coast to Europe.

Q. I am asking for information on this, Mr. Simat. Did Pan American have authorization to fly the polar route?

A. I'm not sure exactly when the authorization to fly the polar route began.

In any event, it is used only largely in the summer months. But I don't think it is necessary to physically transfer the plane that way. It is a matter of rerouting airplanes and reassigning them among divisions.

Q. Pan American Airlines commenced jet service from San Francisco to Honolulu to Tokyo in August of 1960, did it not?

A. I'm not sure of the precise date. That sounds about right.

I note that between July of 1960 and October of 1960, according to our data on page E-A-2 there is the omission of Tokyo flights which suggests to me that there was a Tokyo service available in October that was not available in July.

Q. Northwest Airlines began jet service from [Tr. 8480] Seattle to Tokyo at about the same time, at the beginning of August, 1960, did it not?

A. I believe that that is approximately right. Northwest initially contracted for the DC-8s and like all airlines that ordered the DC-8s the Northwest orders came through later.

The Seattle-Tokyo route is not directly competitive with the Pan American route from the California points.

Q. You say it is not directly competitive, Mr. Simat, by which I take it you mean it has a different point of ori-

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gin, but for passengers within point of origin at any distance at all from either San Francisco or Seattle who wish to go to Tokyo, it is a very important element of competition, isn't it?

A. I point out to you, Mr. Tenney, that the Northwest Seattle-Tokyo route has had a very distinct mileage advantage over the Central Pacific route amounting to maybe 2000 miles, and the attractiveness of the Central Pacific route is the Honolulu stop-over and not the time saving that emerges from that, and the passenger who wanted to save time would have in the normal course taken the Seattle routing, in any event.

I don't consider those two routes to be in [Tr. 8481] substantial competition, no.

Q. On the next page of this table, you give information with respect to Latin America and Bermuda and one of the significant routes indicated there is the route from New York to San Juan in December of 1959 which continues for a time thereafter.

Do you happen to know when Eastern Airlines began its jet service to San Juan?

A. I don't have the precise date. Eastern Airlines, of course, was one of the fortunate airlines that acquired the DC-8.

Q. I show you a photostatic copy of the Official Airline Guide, page C-163 for the month of July, 1960 which indicates if I read it correctly that Eastern was flying DC-8 jet service from New York to San Juan at that time.

The date when this service was commenced does not seem to appear any place on this page as far as months go. There are under the Bermuda table, you will note, several notations as to flight discontinued effective August 14th. We don't have here apparently the original Airline Guide

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from which this is photostated but if you will assume subject to check that this is from the volume that I represent it as being from, doesn't [Tr. 8482] this indicate that Eastern Airlines was by the end of July, anyway, 1960, operating jet service from New York to San Juan daily as a matter of fact, it says?

A. It is quite possible, Mr. Tenney.

I would point out to you that the volume of service supplied in October of 1960 by Pan American was substantially in excess of the daily volume as you know.

Q. So that if that's correct, then your table on these two pages dealing with Latin American routes would be in error to that extent, that the New York-San Juan route would not be a route on which Pan American was operating jets without jet competition?

A. That's correct.

.

[Tr. 8490] Q. Have you ever advised the management of an airline to deliberately use brand new jet equipment at substantially less utilization than they could have achieved making best use of the operation possibilities at the time?

A. The answer to that, sir, is yes.

Q. What airline was that?

A. Northeast.

Q. Were those operations very successful?

A. They were more successful than the operations that would have been conducted if they had conducted the operations that I advised them not to conduct.

Q. Were you responsible for the forecast presented on Northeast Airlines' behalf to the CAB of income that they expected to achieve in 1963 in the New York-Florida renewal case?

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A. Only for the traffic portion of the forecast, which I might point out was within two per cent.

Q. How close was the income portion of the forecast [Tr. 8491] cast?

A. That was very close, the revenue portion.

Q. The forecast as to operating profit was nearly four million, was it not?

A. I don't recall the exact figure.

Q. Do you recall the actual operating loss achieved in 1963?

A. Not offhand, no.

Q. I have here the figure of 11,142,000. Is that approximately right?

A. It could very well be right. At the time the forecast was prepared there was no Eastern Airlines shuttle operations in contemplation.

Also, the Civil Aeronautics Board had not yet ruled that the route should not be renewed. Eastern had not yet pressed for bankruptcy proceedings on the part of Northeast and threatened to have the tickets remanded.

.

[Tr. 8494] Q. On the next two pages, E-21, E-22, you compute your estimates of TWA's increase of transatlantic passengers.

Am I correct in summarizing your report on this subject as basing the difference in the figures of passengers that you come up with from the figures as to the passengers that Mr. Wemple in the Coverdale & Colpitts' report came up with on the differences in the number of seats offered which would result because of your assumptions on competitive response that we have been discussing?

Mr. Hayes: Could I have that question read?

Simat—Cross

Mr. Tenney: I think I better withdraw that question. That is confused even to myself.

Mr. Hayes: We are in agreement

Q. The figures as to passengers that you come up with on these pages are of course different from the passengers that have been estimated by Mr. Wemple in the Coverdale & Colpitts' report.

Am I correct in understanding that the difference results entirely from the different assumptions that you have made as to the number of flights that competi- [Tr. 8495] tors of TWA would have flown during these periods?

A. Well, if you will change the word "flights" to seats, I will agree with you.

Q. Seats. I change the word to "seats."

So that if your estimate that Pan American would have reacted to any increase in the seats offered by TWA on a seat for seat basis, and the foreign flag carriers would have similarly reacted on a one seat for every two seats offered by the American flag carriers basis, if those estimates of yours were completely rejected, your estimates as to the number of passengers would fall with them, is that not correct?

The Special Master: If your assumptions fall your conclusions fall, isn't that what you are saying?

Mr. Tenney: That's what I am saying.

The Witness: Post hoc ergo propter hoc.

The Special Master: What is the answer to that?

The Witness: I would hope that the answer would be correct even though the assumptions are incorrect, but you are right, Mr. Tenney.

.

Simat—Cross

[Tr. 8577] . . . By Mr. Tenney:

Q. Mr. Simat, shortly before our recess, we established that one category of cost as to which you used a different costing unit than Mr. Wemple did, that is, the category general administratnon expense, has some computer testing made in your computer printouts of the two alternative costing units.

I believe that the category other cash operating expenses, which you chose is designated as Equation 14A in your index and in the various printouts, and the costing unit transportation revenues, in this category is designated as Equation 14B in your index and again in the printouts.

Is that correct?

A. Yes.

Q. Do you have any tabulation of the relative results that were achieved by these checks of those two costing units?

[Tr. 8578] A. Not at hand, no.

Q. There are obviously various ways that they could be compared, but would you agree with me that a comparison of the corrected R^2 as reported in each one of these tests would be a reasonable measure of what the checks showed?

A. I think that's one basis for comparison.

Another basis for comparison is the stability of the B coefficient value.

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[Tr. 8581] Q. I am familiar with what it is and we will look at it, Mr. Simat. I am not suggesting that this classification is in any way unsound. We have to do something with respect to the index which we are all working with because otherwise it will be confusing.

I see no particular problems that are quite that substantial in nature in Books XI and XII which deal with TWA

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although they are set up somewhat differently. If we see any problems we will clear them up then.

I would suggest that we look first, if you will please, at Book IX which is the domestic cross-sectional analysis of indirect costs and see what we can see there as to Equations 14A and 14B.

This book is classified in the first instance by equations so that it is quite possible to take off the results for each of the five years 1959 to 1963 for any given equation without too much chasing back and forth.

Looking at Equation 14A first, the year 1959, I find a corrected R^2 of .8890.

Is that correct, Mr. Simat?

A. Yes.

Q. What other value there would you suggest we try to preserve for comparison. I have tabulated some [Tr. 8582] of these correct R^2 but I have not tabulated—

A. Why don't we just look at that one then?

Q. All right.

A. I also suggest—

Q. If you think that the slope is important—

A. Yes, why don't you list that too? That's .0474.

Q. Why don't we just run on by year here which is the easiest way to do this, I think, staying on Equation 14A.

A. All right, do you want me to call the figures out?

Q. You can call. I will jot this down and I suggest you might want to jot it down too.

A. For 1960, the R^2 corrected is .9600.

The cost coefficient is .0505.

For the year 1961, the R^2 corrected is .9557.

The cost coefficient is .0506

For the year 1962, the R^2 corrected is .9712.

The coefficient is .0509.

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For the year 1963, the R^2 corrected is .9680 and the cost coefficient is .0519.

Q. Thank you.

Now could we turn from that to the next succeeding equation which is 14B and get the same information?

[Tr. 8583] A. For the year 1959, the R^2 corrected is .8987.

The cost coefficient is .0380.

For the year 1960, the R^2 corrected is .9712.

The cost coefficient is .0416.

For the year 1961, the R^2 corrected is .9610.

The cost coefficient is .0424.

For the year 1963, the R^2 corrected is .9602.

The cost coefficient is .0414.

For the year 1963, the R^2 corrected is .9709.

The cost coefficient is .0418.

Q. Thank you.

These are all the tables in Book IX that would bear directly on the comparison we are trying to make, are they not?

A. Yes.

Q. Looking at the figures that you have come up with here, as far as R^2 corrected goes, I make for four years out of the five the R^2 corrected as higher for transportation revenues which is Mr. Wemple's costing unit than for other cash operating expenses which is your costing unit.

The only year that that is not true of is 1962.

Do your figures agree with me on that?

A. Yes.

[Tr. 8584] Q. Do you see a substantial difference in the consistency of slope that you would consider significant?

A. I don't see a substantial difference in the R^2 and as far as the consistency of slope is concerned, I think there is slightly more consistency of slope in the equation relat-

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ing to general and administrative cost to other cash operating expenses.

Q. What is in terms of ten thousands which is the unit that these slopes are expressed in, that is, four figures to the right of a decimal point—.0001 would be one-ten thousandth—in terms of ten thousands what is the range between the slopes that you have taken off for 14A and 14B respectively?

A. For 14A the range is .0045.

For 14B, it is .0044.

The average level of the cost coefficient in 14A is somewhat higher than the average level of the cost coefficient in 14B, and in terms of percentage deviation I would say that the 14A relationship is probably somewhat better, but not materially so.

Q. Do you ascribe any significance to the difference in average levels? Wouldn't such a difference inevitably result from the use of a different X unit?

A. I don't think that any of the differences I am [Tr. 8585] looking at here are particularly significant.

Q. That was domestic. I don't know whether you want to go through the exercise or not.

I have gone through the exercise as to R^2 for international as well, coming out with the same result. I can read them off to you if you like. I do not have the slopes unfortunately.

Should we go through the exercise for slopes as well or can we just take my figures on the international?

A. I think we might as well go through the exercise for slopes as well.

Q. That would be for Book X?

A. The R^2 corrected for 14A for the year 1959 is .9857. and the cost coefficient is .0586.

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For the year 1960, the R^2 is .9929, and the cost coefficient is .0492.

For the year 1961, the R^2 corrected is .9922 and the cost coefficient is .0494.

For the year 1962, the R^2 corrected is .9920, and the cost coefficient is .0552.

For the year 1963, the R^2 corrected is .9971 and the cost coefficient is .0546.

Q. Thank you and now we will turn to Equation 14B.

[Tr. 8586] A. 14B the R^2 is .9904, corrected, and the cost coefficient is .0479.

For the year 1960, the R^2 corrected is .9910 and the cost coefficient is .0386.

For the year 1961 the R^2 corrected is .9937 and the cost coefficient is .0391.

For the year 1962, the R^2 corrected is .9947 and the cost coefficient is .0418.

And for the year 1963, the R^2 corrected is .9978 and the cost coefficient is .0396.

Q. Thank you.

Looking back at the figures that you have read off from the printouts and looking first at the R^2 's as to which I have had an opportunity to examine them before in my tabulation, I find that four of the corrected R^2 for Equation 14B are higher than those for Equation 14A in the same year, the only difference in this case being the year 1960 when it comes out the other way.

Do your notes correspond with mine?

A. Yes.

Q. Do you see any substantial difference in the consistency of slope in the two equations to which you would ascribe any significance?

[Tr. 8587] A. Again, the range of differences in the slope values under 14B is proportionately somewhat greater than it is under 14A.

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Q. What are the absolute differences?

A. The absolute differences, as I calculate them for 14A, .0094, for 14B, .0093. There is about a 25 per cent difference in the value of the cost coefficient on the average, the cost coefficient under 14A being higher than the cost coefficient under 14B.

Q. Differences in the absolute amount of slope are, of course, to be expected as between different variables selected for your X variable, is that not correct?

A. That's quite true, Mr. Tenney.

I am only using the differences as a base from which to measure the degree of stability in the experienced cost coefficient for each year.

Q. Do you consider that those tests establish a superiority for your costing unit over Mr. Wemple's costing unit?

A. Not in and of themselves. Taken together with other considerations, including the fact that other cash operating expenses is normally used in my experience at least in the air transport industry as the explanatory factor for general and administrative costs, including [Tr. 8588] the conceptual reason that the size of the general and administrative burden is not only related to the amount of revenues which an airline obtains, but also to the complexities and size of its total operations.

In short, there would be general and administrative costs incurred, if the airline had no revenues at all. If it operated its aircraft empty, it would nevertheless incur some general and administrative costs.

Conceptually it appears to me that transportation revenues are not as good a costing unit as other cash operating expenses. The stability of the cost coefficient values seems to confirm that, although I do not really place much value on the differences between the two.

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In terms of the R^2 corrected, the differences are so slight that I would not use that as a discriminating factor.

Q. I understand your explanation of the reasons apart from the statistical check, that in your judgment point towards the selection of the other cash operating expenses.

But from the statistical check alone, if you were to use the statistical check as the determining factor in your choice, wouldn't you consider it significant that out of the ten equations that were derived through your regression analysis eight of them had corrected R^2 which is the corrected coefficient of determination that are higher for the transportation revenues variable than for the other cash operating expenses variable?

A. I don't consider the difference in the R^2 to be significant at all.

I do not believe that there should be a substitution of statistical measures for common sense. I think it is unavoidable that you have to consider the cost model, the cost estimating relationships in terms of what it is you know about the behavior of operating cost to determine whether a particular cost factor makes sense.

I've used the statistical analysis simply as a check to reasonableness of the relationships and I place as much value in this particular case upon the stability of the cost coefficient as I do upon the R^2 corrected which as you know are subject to some sampling error and the differences are almost infinitesimal.

[Tr. 8590] Q. Is it fair to say that the controlling, the controlling factors in your selection between these two units were derived from your experience and judgment and were not dependent upon the statistical analysis?

A. It is fair to say that I approached the analysis with the idea that other cash operating expenses were better related to general and administrative costs than transporta-

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tion revenues, and that had the statistical analysis indicated that transportation revenues in terms of the empirical evidence provided a much superior measure I would have switched.

Q. As it is, it is sort of a Mexican standoff at any rate, isn't that fair, Mr. Simat, as far as the statistical analysis goes?

A. Well, as far as the statistical analysis, yes, it is a Mexican standoff.

As far as the conceptual differences are concerned I don't think that there is any real problem.

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[Tr. 8668] • • • Q. Book XI is time series analysis in the sense that you have used that and as you have defined it this morning, is it not, Mr. Simat?

A. Yes, it is.

Q. It is confined to TWA, the first portion of the book covering domestic direct costs and the second portion of the book international direct costs, is that correct?

A. That is correct.

And I might say as a preface that we did not rely on any of this information.

[Tr. 8669] Q. I do think there is one thing I would like to ask you about, though—I won't introduce my little plots here—by which I mean graphs—but there are one or two odd things about this that may have a rather general significance.

Take the international side of this, and take any equation, but Equation 1 I suppose is the most important of the direct cost equations, and then look, if you would, please, at aircraft type 808.

A. As a matter of fact, that is exactly where I opened it up.

Simat—Cross

Q. Aircraft type 808 is shown in your index as being the Boeing 707-300 series, is it not?

A. Yes.

Q. When, just approximately, did TWA get Boeing 300Bs which of course are designated by TWA as 331Bs, into their fleet? Just approximately.

The Special Master: Can you refresh his recollection on that?

Q. It was about the end of 1962, was it not?

Mr. Hayes: 331Bs?

Mr. Tenney: That's right.

A. Yes.

Q. Looking at your residual analysis of this [Tr. 8670] table here, I see figures for the Boeing 300B, direct operating costs, commencing—the first figure I see there if I translate it correctly is the third quarter of 1959, is it not?

A. You are absolutely right. It is the first quarter of 1959.

Q. Excuse me. First quarter of 1959.

Not only TWA but nobody in the world had that kind of airplane at that time, isn't that correct?

A. It just shows you you can't rely on these figures.

Mr. Tenney: There are some other examples but I don't think I will go into them.

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[Tr. 8753] . . . Q. But in your estimates of transatlantic flights, you have used the same numbers that Mr. Wemple estimated which involve an allocation of the total mileage flown by these aircraft in international service, between transatlantic flights and other International Division services, is that not correct?

Simat—Cross

The Witness: May I have that question read back, please?

(The question was read.)

A. Mr. Wemple estimated transatlantic flights by applying an historical factor representing the ratio of numbers of transatlantic flights to numbers of aircraft miles flown.

We have applied the same ratios in our estimate of transatlantic flights.

Q. By the application of that ratio, Mr. Wemple assumed an increase in non-transatlantic services proportionate to the increase in total aircraft miles flown, is that not correct?

I think that the portion of the Coverdale & [Tr. 8754] Colpitts report immediately prior to page 15 and then on page 15 sets the analysis forth rather fully. I just want to make sure I am clear as to what your answer is on this general subject.

A. If I may take a crack at rephrasing the question before answering it, because I am not sure I can answer it in the form in which it was given to me, if we were to take the total flights estimated by Mr. Wemple, transatlantic flights, and multiply those flights by some average distance per flight—and this would be difficult to determine, I might add—the mileage that we would come up with as a result of a calculation would be something like less than the total International Division mileage that is operated by TWA. So there obviously or should be in the historical experience some reflection of mileage operated beyond the gateways.

However, the significance of that mileage is not at all clear. I am not aware, except for some minor operations through the Middle East, of services which TWA originates abroad.

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In short, the bulk of TWA's services originate in the United States and are operated across the Atlantic and penetrate into Europe.

So, all the mileage is accounted for and all of [Tr. 8755] the traffic, transatlantic traffic carried on these flights is accounted for.

Now, historically, it has been true, and I think that Mr. Wemple's figures would indicate, that, there is an increasing proportion of TWA's transatlantic service that is operated between the gateways—and by gateways I mean U. S. gateways such as New York and transatlantic gateways such as London, Paris and Rome.

This is characteristic of U. S. operations in the transatlantic area. As time has gone on, there has been less of a concentration of long flights penetrating deeply into Europe or the Middle East, and more of a concentration of transatlantic services, turn-around flights operated in the transatlantic area. And this policy, I might state, is encouraged by the U. S. Government. The last international policy paper that was promulgated by the government strongly suggested that U. S. airlines concentrate primarily on the transatlantic area and devote less effort to operations beyond the gateways.

I don't know whether this has answered your question as completely as you anticipated or not.

Q. I think it does.

Just one or two more questions on that same general subject.

[Tr. 8756] If reconstructed TWA with these additional aircraft employed to some extent in beyond the gateway services found that the use of these additional jet aircraft in those services did not produce any increase in revenues, management could have made a decision to concentrate all of those services on what you have described as turn-

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around transatlantic flights, thus providing more transatlantic seats, might they not?

A. Yes, that was certainly an option open to management.

A further option open to management was not to have flown that mileage at all. But as I have tried to make clear we are not altering in any way the assumptions made with respect to total miles flown. And in the transatlantic area we have further assumed that Mr. Wemple's calculation of the usage of the aircraft is a correct calculation, and we have followed his calculation.

I myself would not agree that the use of the aircraft as it is inherently assumed in the calculation is the appropriate use of the airplane.

The Special Master: Are you speaking now as between transatlantic and beyond the gateway or between domestic and international?

The Witness: Well, I am trying to make a [Tr. 8757] distinction here between really three things.

There is transatlantic, and then there is beyond the gateway, beyond the gateway meaning in this case the origination of a flight abroad and moving to another point abroad.

The Special Master: I understand.

The Witness: Then there are questions of how far you route a transatlantic flight once you get into Europe. In other words, having operated to Paris, do you want to go to Rome as well on that flight? If you do not go to Rome on that flight and operate only to Paris, presumably you lose some of the Rome passengers that you are carrying.

And in the figures that we have used, we have used TWA's historical experience with respect to its

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New York-Paris and New York-Rome passengers as well.

So we have made no basic change in the manner in which they were routing airplanes or assumed no basic change. But there were options obviously available to management. They could turn the flight around at Paris if they wanted to.

By Mr. Tenney:

Q. You have not in your computation made any estimate [Tr. 8758] as to what additional revenues might have been achieved by the exercise of that option?

A. That is correct. Or revenues that might have been lost by the exercise of that option.

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[Tr. 8762] Q. Would you refer, please, to Volume IV of the Coverdale & Colpitts report, Exhibit F, sheets 51 and 52 which are the page references given on this table that we have been looking at for the lines in question.

You will see near the bottom of the page the line which reads, "4B-331B jet aircraft," and the figure under the heading "Actual Expense" of \$10.4 million, and then the figure in the last column opposite the same line of minus 10.4 million indicating a deletion of the \$10.4 million in question in the Coverdale & Colpitts estimates.

Do you see those entries, Mr. Simat?

A. Yes.

Q. Do you see immediately under that the explanatory sentence which reads:

"Our estimates assumed the substitution of B-331 aircraft for B-331B aircraft which eliminates this B-331B expense."

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Do you see that sentence, Mr. Simat?

A. Yes, I do.

[Tr. 8763] Q. Did you in your report estimate a reduction of TWA's expenses to reflect the absence of operating costs for the B-331B aircraft in 1963?

A. If we didn't, we should have.

I would have to check again to make sure.

I had some problems with the numbers in Exhibit F. It does not seem reasonable to me that a given amount of B-331 mileage could be used to replace the same amount of B-331B mileage at a lower cost, since the B-331B is a less expensive airplane to operate per mile than the Boeing 331, but let me examine my own figures.

I will have to check this further, Mr. Tenney, but I believe that we do have an error here. I believe that we have not offset the Boeing 331B miles in our cost estimates and consequently we have not deducted the reduction in Boeing 331B aircraft operating costs in 1963 that we should have deducted.

But I will have to check out the figures.

Q. In theory, historical B-331B costs should be deleted for the purposes of the assumptions we are making here, is that correct?

A. That's absolutely right, yes.

Q. I will call your attention to the fact that this involves in the International Division for 1963 the largest [Tr. 8764] portion of those 331B expenses totalling \$11.8 million, but that a small amount appears in 1962, 100,000 only, and a relatively small amount appears also in the domestic portion because of the nature of the allocation of the B-331B between domestic and international which shows up on Schedule II-5 for 1963 and amounts to 700,000.

Mr. Hayes: That is II-5, TWA Exhibit 345.

Mr. Tenney: That is right.

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Q. II-5 for 1963 amounting to 700,000 and II-4 for 1962 amounting to 100,000.

So that you have about an additional 900,000 in those miscellaneous places as to which the same principles are applicable and as far as we can tell there was no deletion.

A. I will certainly check that out.

In principle, the B-331B costs should have been deleted. If they were not, it is sheer error on our part. . . .

[Tr. 8868] . . . By Mr. Kohn:

Q. May I ask one question on what you just said, Mr. Simat?

When you say that the use of one airline gives you problems for purposes of comparison, may I ask you is there any airline whose domestic operations are more comparable to the domestic operations of TWA than those of American Airlines?

A. I would say that United Airlines is probably very close in comparability to TWA in terms of its domestic route structure and the extent to which it parallels TWA's routes.

I would have difficulty distinguishing between United and American Airlines on the grounds that United [Tr. 8869] was less comparable than American.

Q. You think United is as comparable as American is to TWA?

A. I think there are a number of airlines that would have to be considered.

TWA, like all major trunk lines, competes with virtually every other major trunk line in the business today.

In fact, I believe it is true that TWA competes with every trunk line over some portion of its routes.

But the difficulties of using one airline as a basis for estimating the profits of another are that the earnings of

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any one particular airline are quite susceptible to changes in policies, changes in route structure, which affect that airline perhaps more peculiarly than the operations of any other airline.

I myself do not feel that the comparative profit type of study is particularly valid in any circumstances, but I would say to make it more valid than the study is here, one would certainly have to broaden the base by extending the number of years that are used as the base period from which the given period is estimated.

One would also have to extend the base to in- [Tr. 8870] clude a greater number of airlines in the base so as to make the results less susceptible to the kinds of errors that can creep in because of the events that are peculiar to one airline or another airline.

And one would also have to examine both the base period and the given period very carefully to make sure that there were no changes between the base period and the given period that would affect the earnings of one airline more than another.

For example, if it were true that one airline was the beneficiary of a major route grant which affected its earnings in the base period, a route grant which it did not have in the given period, certainly either the given period earnings or the base period earnings, would have to be adjusted to equate the two situations, to assume either that the route grant was there all along or it was not there at all in both periods. You couldn't have it both ways.

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[Tr. 9180] * * * Mr. Tenney: Our spot-checks, as I say, showed several instances in those two months which was the only two we checked, December of 1959—excuse me—July of 1959 and December

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of 1961 in which we thought Viscounts and Electras were included. I am glad to know it was in error if that occurred.

Mr. Brownell, I have really only one other thing which is in the nature of a response to a question directed to counsel I guess I would put it some time ago in the course of the examination.

It was with respect to TWA Exhibit 355 and TWA Exhibit 356. Those two exhibits were introduced in the course of Mr. Kohn's cross examination of Mr. Simat on the so-called comparative profit study of Mr. Wemple and the related section of Mr. Simat's report.

The portion of the transcript—and Mr. Perkins may wish to check this—to which I refer is page 8881A.

You may recall that these exhibits, TWA 355 and 356 were prepared to correspond in most respects to tables introduced in the course of Mr. Wemple's [Tr. 9181] comparative profit study comparing TWA's international operations with Pan American's Atlantic operations and TWA's domestic operations with American's domestic operations. The differences in these two exhibits were that one of them added United Airlines as a domestic comparison, and the other added domestic trunks as a domestic comparison. Otherwise, they came out with about the same figures.

Mr. Hayes said on page 8881A and I quote him:

"I notice that there has been a change between page 4 of Mr. Wemple's Exhibit 4B and TWA Exhibits 355 and 356 with respect both to the figures called TWA actual profits in the two exhibits including the

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profit for international from 34.4 to 34.5 and a corresponding reduction of \$100,000 in the Pan American figure. Is this supposed to also be an amendment of Mr. Wemple's original report which was carefully checked by counsel and Mr. Wemple?"

Mr. Kohn said, "We will have the \$100,000 figure you mentioned checked."

I have a couple of extra copies. Here is a set of 355 and 356. And here are two copies of 355 and two copies of 356.

It was not our intention by introducing 355 and [Tr. 9182] 356 to amend or make any changes in Mr. Wemple's original report. The differences in these figures that Mr. Hayes called attention to are the results of rounding differences, people rounding things in a different way this time than they did last time.

But in order to avoid the suggestion of a correction which was not intended to Mr. Wemple's original report, I would like to amend for the record certain of the figures in these two documents.

In the first table of Exhibit 355 opposite Pan American Atlantic under 1964 the figure 26.2 should read 26.1 which is what it read in the corresponding table in Mr. Wemple's original report.

That does not affect the average.

In the third table the lines opposite TWA international, the figure under 1963 should be 23.3 instead of 23.4, and the total figure should be 34.4 instead of 34.5.

In the final table at the bottom of the page opposite TWA international under the actual column the figure 34.5 should be changed to 34.4 and the difference figure of 81.1 should be changed to 81.2 and

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correspondingly the total at the very bottom of the page, 149.4 should be changed to 149.5.

[Tr. 9183] Except for the last few figures which are the result of the computation, this conforms the figures to those given in Mr. Wemple's original report.

There are substantially the same changes to be made in TWA Exhibit 356. In the first table opposite Pan American, Atlantic, under 1964 the figure should be 26.1 and not 26.2.

In the third table opposite TWA international under 1963 the figure should be 23.3 and not 23.4. The total figure for TWA international should be 34.4 and not 34.5.

In the final table opposite TWA international, actual TWA profits should be 34.4 and not 34.5. The difference figure should be 81.2 and not 81.1.

And the total figure at the extreme bottom right should be 121.3 instead of 121.2.

To repeat, the cause of these things they were rounding differences, rounding these things in different manners on the two separate occasions.

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[Tr. 9788] Q. A minute ago, Mr. Simat, you referred to certain passages in the Ezekiel & Fox. So as to put this in some kind of a manageable compass as far as whatever else you would like to bring up, would you attempt to review the passages that you directed our attention to just now—I realize you did not have a chance to study it carefully—and consider whether those adequately bring out the points you were trying to make, and if they do not, give us a list of such other things as you wish to call our attention to, if possible on Thursday when we resume, and I suppose that

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we could all agree that whatever point there is in these probably can be brought out with a relatively limited number of examples, if you will select the ones that seem to you to be most appropriate to make your point.

Then we can review them and see if we have any further questions on it.

Would that procedure be satisfactory to you, Mr. Simat?

A. It sounds most fair, Mr. Tenney.

Q. I have one question that is somewhat on the same line, perhaps one small group of questions and perhaps we can get to that before we recess.

In previous printouts of regressions that you [Tr. 9789] have furnished us with, Mr Simat, in connection with your earlier report, and indeed in most of the printouts that you have furnished us with in connection with this report, some other tests or perhaps I should call them parameters have been printed out. Specifically almost all of them have listed the standard error of estimate.

I notice that is not here in this one. Can it be readily computed from this data?

A. It can be computed from the data. It is not shown in this particular printout, and the reason that it is not shown is that we have used from time to time in our analysis various programs for computing correlation coefficients.

Some of the work has been done in Boston, and we have used two different computer organizations in Boston. We have had some of the work done in Washington, D. C. and we have used two different computer organizations in Washington, D. C.

And there are variations in the programs insofar as certain of the programs do not report or print out all of the statistical parameters.

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The program that was used in this particular case did not print out the standard error, but the standard error can be computed, and we would be glad to supply it.

【Tr. 9790】 Mr. Perkins: I would like to make one statement, Mr. Tenney, as to what the report does or does not contain, and this pertains particularly to Volume B of the report.

It was composed under extreme pressure to meet a deadline, and there is no doubt that if time—if there had been even another week to write it, it would have been a fuller, clearer, more detailed report.

That is simply a fact which may explain why some things are not in the report that might otherwise be there.

The attempt was to put the essentials there and the work papers it was hoped would supply anything else.

But I am sure that with further time this would have been a somewhat more full and lucid report, the text in Volume B in particular.

Mr. Tenney: Let me state for the record the figure which has been given to me by a man who computed it as the standard error of estimate for your preferred equation and perhaps you can check it and confirm subsequently whether this is accurate or not.

【Tr. 9791】 It is one standard error plus or minus 10,530,000 passenger miles.

I think this would be a good time for our recess.

The Special Master: All right.***

【Tr. 9997】 * * * By Mr. Tenney:

Q. As I understand it, this printout that you have just showed me, Mr. Simat, is the printout of data cards that were used in connection with the production of De- 【Tr.

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9998] fendants' Exhibit 331, I believe it is, which was revision of your profit and loss calculation on certain changed principles; is that correct?

Mr. Perkins: I think that was—my recollection may be faulty—I think that reflected changes in connection with the elimination of 331B costs, and I think there was a change in the computation of the method of adjusting the marginal load factors for the effect of economic growth.

In connection with submitting that, Mr. Simat had had a program prepared which could immediately compute the profit and loss effect of changing any of the factors that he had used, and Defendants' Exhibit 331 was such a computation of profit and loss, and in connection with that we supplied a program—a printout of program and probably other materials.

By Mr. Tenney:

Q. I do not recall—I am asking for the transcript to be checked and possibly you will recall—that we were informed at the time that the constants that you had used for yield have been changed.

Do you recall that?

A. I don't recall that we changed the constants of [Tr. 9999] the yields.

Q. In your revised report, Mr. Simat, at page D-8, the figures for the yield formula that you used in that revised report are all set out, and they are different from these figures that appear in this program, and I now discover from your having explained it to me now, that they are different from the figures that you used for Defendants' Exhibit 331.

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We did not know that at the time. That may also explain why most of the cost figures seem to be different, cost constants seem to be different from those that were used in your previous report.

For example, in your previous report, Vol. I—

The Special Master: When you say "revised report", you mean revised pages of original report?

Mr. Tenney: Mr. Brownell, we had a lot of revisions of these documents and it is undoubtedly confusing.

Defendants' Exhibit 271 was, of course, originally introduced in July, and then we had a large number of revised pages.

The Special Master: Yes, I remember that.

Mr. Tenney: That was regarded as the revised [Tr. 10,000] basic report of Mr. Simat, and that's usually what I intend at least to be referring to when I speak of his revised report.

The Special Master: All right, I just wanted to get that clear.

Mr. Tenney: In that report, there are figures set out as to many factors that were used in computations.

One of the figures set out on the page I cited is a list of the factors used for the yield formula for each year in question.

In the way this thing is organized, that particular table was largely the same as it had been in July, and you can actually see the corrections that were made. There were relatively few figures. And I think we all have them marked in our copies.

Mr. Perkins: Two of them were just rounding corrections, and the only correction of any significance

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was the fixed amount for 1959, which was changed from \$5.59 to \$5.34.

Mr. Tenney: A good deal later, near the end of the cross-examination of Mr. Simat on this report, a revised profit and loss study—computation, I should say, was introduced which was marked as [Tr. 10,001] Defendants' Exhibit 331, and came up with different end results.

My understanding was that it had reflected changes only of the types that Mr. Perkins outlined on the record a few minutes ago.

I had not understood, although it now does appear, that most of the other constants or factors were revised to some extent.

Just for example—I have not examined this program that Mr. Simat is referring to for this purpose—but in the case of tons per aircraft, a factor that Mr. Simat uses for some of his computations, the year 1959 for the 1049H aircraft, Vol. I, Page V-14 of Mr. Simat's revised report, Defendants' Exhibit 271 sets out that figure of tons per aircraft for that type of aircraft at 10.924.

In our check of the program data used for Mr. Simat's supplemental report, we find that the figure he has used is 14.905. It had not occurred to us that this change might have been inserted into Defendants' Exhibit 331, and in the course of our cross-examination last fall, we did not inquire into it to that extent.

I think perhaps now about all I can do is [Tr. 10,002] ask were these other factors changed at that time as well.

The Witness: Is there a pending question?

Mr. Tenney: Yes. I will restate it, because it followed a lengthy statement and it might be more difficult for the reporter to find it.

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By Mr. Tenney:

Q. In connection with the preparation of Defendants' Exhibit 331 last fall, were there changes made in your variable cost factors from those which were printed out or set out in revised Defendants' Exhibit 271?

A. It is my understanding that Exhibit 331 contains all the revisions that were made either as a result of errors determined and revised in the report itself or as a result of errors that may have become manifest through the cross-examination.

And 331 is supposed to be the correct version of the calculation of profit and loss in the case.

And I am not aware of any changes in 331 that are not a matter of record.

Q. I do not believe that there is anything on the record except this conversation, question and answer this afternoon, that reveals that there were changes in these costing factors used in the computation of Defendants' [Tr. 10,003] Exhibit 331.

But do I now understand that there were such changes?

A. I am just not aware of them. I will be glad to look to see if there were any changes. I don't believe so.

But we will certainly check out this possibility, since it seems to be a matter of caution.

As far as I know, the calculations that are performed in Exhibit 331 are to support—or to support 331 are the correct calculations. These were made available to you for checking.

We have used the same basic factors in calculating the profit and loss data in connection with our supplemental report.

There should be no change between 331 and the supplemental report in any of the costing factors.

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And as far as the yield information is concerned, the only difference between the report and what it sets forth there and the figures that appear in the computer run are that the computer actually worked out the formula and came out—carried the calculations out a greater number of places than we did for purposes of the report, and consequently there are rounding errors, or rounding differences, I should say, but they are all in the last place and generally insignificant.

Mr. Perkins: I might just state, Mr. Tenney, we had assumed that since you had an opportunity to examine that and didn't ask any questions about it, that it was satisfactory to you. And we noted that, in fact, TWA Exhibit 370, you submitted a number of calculations which were, in fact, based upon the figures shown in Defendants' Exhibit 331.

Of course, we don't mean to say if you now have some questions that you did not have at that time about anything that appears in 331, we would certainly be most happy to explain them to you.

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[Tr. 10,034] The Special Master: Proceed.

By Mr. Tenney:

Q. Mr. Simat, Subchapter D of Part III of your report is headed "Estimated Changes in Operating Profit or Loss," and it begins on Page III-24.

The actual changes are set out in tabular form on the Pages III-25, III-26, III-27; is that correct?

A. Yes.

Q. III-27 is Table III-J, and it summarizes the net changes produced by combining your piston estimates and your jet estimates for the years in question; is that right?

A. Yes.

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Q. On the assumption that we are dealing with here, TWA would have had in the period in question a substantial number of additional jet aircraft, varying in absolute number, of course, from year to year, but a significant number of jet aircraft in addition throughout the period to those that it had historically; is that not correct?

A. Yes.

Q. Those aircraft, that type of aircraft, I should say, generally speaking, the transport aircraft that were being introduced into domestic airline service during that [Tr. 10,035] period, represented the newest, fastest and most attractive aircraft being operated in domestic service in those days, did they not?

A. Yes.

Q. Is it fair to say that the net results of the changes in TWA's operating fleet that this would have produced would have been in the direction of making it a newer, more modern fleet than it was historically?

A. Yes, a higher percentage of the fleet would have consisted of aircraft of the jet variety.

Q. I believe you have testified on several occasions that the jet aircraft are more attractive to passengers, other things being equal, than piston aircraft. I am only looking for a general answer to that. I am sure that you have a number of comments that you have already made on the record as to what this means and why, but in general, is that not correct?

A. I just wouldn't want to bury the term "other things being equal." That is a mighty big "if."

But other things being equal, yes, the jet is a more attractive airplane than the piston aircraft.

Q. I believe, however, you have stated, on occasion, in the record, your views as to what other things should be

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examined, and I do not think that we need to go into [Tr. 10,036] it again, unless you think it is important at this point.

The Special Master: I am not insisting on it.

Q. In the column on Page III-7, giving the total for the five years 1959 through 1963, opposite the figure "Increases-decreases in operating profit," we find (87.32) and that represents, as I understand it, your estimate or opinion that the result, as far as operating profit goes to TWA of its change in its fleet, would have been to cause it to have \$87.32 million less operating profit or more loss, whichever way you want to look at it, than it did historically in those five years; is that correct?

A. Yes.

Q. The next figure immediately above it in that column indicates that the operating costs to TWA of this improved fleet would have been 12.60 million less than its historical fleet; is that correct?

A. Yes.

Q. With a more modern fleet, more attractive to passengers, if TWA could have operated that fleet at an operating cost such as \$12.60 million less, how could it be that TWA would have lost money by the change?

A. I think, Mr. Tenney, that we have been over this ground before and you have to look, as they say on Madison [Tr. 10,037] Avenue, at the big picture.

The replacement of piston aircraft services by jet services was not, as I think I pointed out before, an unmitigated blessing.

During the period when the industry was substantially increasing its jet capacity from 1958 and 1959 through 1961, there was, indeed, an absolute loss in traffic. And the reason

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for the loss in traffic is associated, in my opinion, with the very sharp decline in the number of operating scheduled frequencies.

The substitution of a large jet with 120 or more seats for services that had been supplied with aircraft with seating capacities of 50 to 60 seats, or approximately half, resulted in a very material reduction in schedule frequencies.

And since the jets did not stimulate traffic, did not add to the total volume of traffic, however attractive they may have been in competition with piston aircraft being provided in the same markets, all other things being equal, there is no evidence, with the exception of what we have developed in connection with this proceeding, that the jets actually did add to the total volume of traffic which moved in the industry.

The Special Master: Why don't the air- [Tr. 10,038] lines go back to the piston planes, then, if they can make that much more money?

The Witness: The answer is that the jet, all other things being equal, is a more economical plane to operate. Its cost per seat mile will be less than that of the piston aircraft when the traffic develops to the point where a sizable fleet of jet aircraft can be utilized at frequencies which are demanded by the market. The jet is a very economical plane, and the jet will make a profit.

We are now talking about whether in a period when the addition of jets were resulting in fairly substantial losses in traffic for the industry as a whole, whether additional jets were required to make a carrier whole.

The answer is in a period of over-capacity, the addition of additional capacity is not the answer.

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As for why the airlines do not go back to piston aircraft, there were periods when some of the airlines would have wished very devoutly that they could have returned to the good, old days.

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[Tr. 10,393] Q. If one were to reject the theory that you can make a profit and loss analysis applicable to individual aircraft in a fleet and rank them by profitability—and I realize, Mr. Simat, that that is a hypothesis that you have made and I am not asking you to reject it—I am just asking you to suppose that hypothesis were rejected—and make the further hypothesis that the only reasonable way of determining the profitability of units in a fleet were to average revenues and costs for the fleet, then the entire analysis that you have made in Appendix D would not be possible, would it?

A. Oh, it would be possible. It wouldn't be appropriate under those assumptions.

Q. You would not get any results that would point in any direction at all, would you?

A. Well, we could follow the same procedures. We would not be following the procedures to any meaningful conclusion, if that's the answer you are seeking.

Q. The process of ranking aircraft by profitability is the fundamental first step that you must make to apply the analysis that you have applied in the alternative estimate, is it not?

A. The underlining hypothesis is that aircraft in the fleet will have different levels of profitability, [Tr. 10,394] and it is possible to estimate the profitability of a larger or smaller fleet of aircraft by ranking the aircraft in order of profitability, determining a relationship between the rank order of profitability and profit and loss, and estimating for a larger or smaller fleet accordingly.

Simat—Cross

This, in my opinion, is a reasonable way of doing it, but, of course, it would not be reasonable under the assumption you have propounded.

Q. On page III-29 of Volume B, there is a chart which is labeled IIIA and which is headed "Operating Profitability of Jet Aircraft Showing Profit or Loss by Profit Rank in a Sample Month."

Was this chart intended by you to be illustrative of the points that you were making in connection with the alternative estimate?

A. Yes, it is illustrative of the differences in profitability of different aircraft in the fleet when they are ordered in relation to their actual profit or loss as determined by whatever method of revenue allocation and cost allocation is used.

Q. Mr. Eichner this morning testified that there was nothing particularly necessary about ranking the most profitable ones first. You could rank the less [Tr. 10,395] profitable one first. And if you did that and transferred the results onto a graph like this, all the lines would be pointing up, wouldn't they?

A. You simply change the scale, but you don't change the line. . . .

Q. Mr. Simat, TWA Exhibit 434 for identification has taken the precise three months and aircraft that you chose for your illustrative chart at Page III-29, and we have plotted the same data except that we ranked the least profitable aircraft as No. 1 and the most profitable aircraft as the last number in this ranking order, and we find that all the lines point up.

Now that you look at this chart, isn't it clear that that's what they would have to do if you ranked them in that manner?

Simat—Cross

A. Well, the basic character of the line does not change whether they are pointing upward or downward.

The line indicates that there is among the [Tr. 10,396] individual aircraft of the fleet a difference in profitability, such as the difference between two aircraft consecutively ranked is virtually a constant amount, that is, the amount of difference between any two aircraft is approximately the same, however, they are ranked, either from high to low or low to high.

Q. Whichever way you rank them statistically it would make no difference, you would get the same formulas and so forth that you have come out with and the same coefficients of correlation and so forth that you have come out with in Appendix D, is that not correct?

A. That is right. With the exception, of course, that they would be ranked in order of profitability from low to high or high to low.

Q. Back on Appendix D, those pages starting at page 3, the next to the last column are correlation coefficients.

These are the same measures in general that we have been referring to from time to time in both this report and your previous report last fall?

A. Yes.

Q. These, of course, are simple correlations because you have only one independent variable, is that correct?

[Tr. 10,397] A. Yes.

Q. There were one or two surprises here.

On page 5, for the 331 aircraft for September and October of 1961, there were only two data points, is that correct, Mr. Simat?

A. Yes.

Q. As a matter of theory, isn't it clear—I think you have previously testified—that a regression of this type per-

Simat—Cross

formed on two data points must produce a formula with a correlation coefficient of 1.0?

A. Right. In the interest of conservatism we have stated it as .9999.

Q. Is it possible that your computer was not computing it right?

A. I think the computer was computing it right.

Q. Why weren't you conservative in April of 1962 where the computer seems to have come up with the two data points with a coefficient correlation of 1.0000?

A. I think we may have run out of conservatism by then, but I don't think there is any practical difference between the two correlation coefficients.

Q. Do you regard these correlation coefficients as high, Mr. Simat?

A. They are high.

[Tr. 10,398] Q. Do you rely on them as indicating a reliability for the analysis that you have performed here?

A. Only to the extent that they indicate to me that our basic premise as to the difference in profitability among individual aircraft was essentially correct; that the differences are—amount to a constant, so that the first ranked airplane has a profit margin that is some sum greater than the second airplane which in turn has a profit margin which is the same amount greater than the third ranked airplane and so on.

Q. If you take any 25 numbers, just to pick a size of sample, and you rank them in order of magnitude, aren't you always going to find, if you did it right, that the last one is smaller than the one just before it and so right on up the line?

A. Well, that's certainly true since that's the criterion for the ranking. The question is whether you get the same difference in amount between conservative aircraft.

Simat—Cross

If we had a truly random situation where profit margin was not related to ranking at all, then we would find that there would be a tendency for a large number of aircraft to show rather small differences among them in order of profitability than for a [Tr. 10,399] comparatively few number of airplanes to show large differences in profitability.

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[Tr. 10,402] Q. We, Mr. Simat, have caused some random numbers to be generated by a computer, using numbers of the quantity that are involved in your various samples, and we had five separate sets of random numbers generated, each of them being six-digit figures, since the figures that you were working with from Appendix B are six-digit figures, that is, they are figures in the group of 1 to a million.

The six sets were sets of 4, 6, 15 and 24, and then another set of 4, since we were trying to get the largest and smallest numbers used in the three types of aircraft that you have. So we have 4 and 15 for the 131, 6 and 24 for the CV-330, and 4 for the 331. We omitted the two.

And we caused regressions to be run on those sets of numbers, after they had been ranked in decreasing order, to see if we could ascertain a regression formula from them and what the statistical results were.

All of these processes are things that can be accomplished through programming a computer in the proper way, can they not?

A. Yes, there are about four or five different ways of obtaining random numbers, and I assume that these random numbers were obtained with signs, they were plus and minus.

Q. No, these are numbers in the group from 1 to a [Tr. 10,403] million.

Simat—Cross

A. Of course, the numbers in our series run from pluses to minuses.

Q. That is true. So that it would slightly increase the size of the total group that you could include?

A. Slightly, meaning double it.

Q. I don't think you have any minus figures that are in anything like that order of magnitude, Mr. Simat. I have previously checked this, but I don't think you have any minus figures that are as high as 100,000, do you?

We find one 125,000 minus figure.

A. I don't see any plus figures above 500,000.

Q. So that we have a number of series of numbers within, oh, roughly—the precise numbers are not important—the range of 500,000 or so and minus 125,000 or so or a total of something between six and seven hundred thousand six-digit numbers that might be involved; is that correct?

A. Well, the entire range of experience, profit and loss on the method of cost and revenue allocations used is from approximately plus 400,000 to minus 100,000, which would give you a range of about 500,000 in total.

Mr. Tenney: Would you read that back to me?

[Tr. 10,404] (The record was read.)

By Mr. Tenney:

Q. Actually, if you have a series of random numbers that are all of constant positive sign, you can convert them without affecting their randomness into a series including both positive and negative by uniformly subtracting a constant figure of your selection from each of your random numbers, can you not?

A. Yes.

Simat—Cross

Q. Any regression in terms of developing a regression line that you performed on the resulting figures would not be changed by that process, would it? It would change your intercept, I believe, but it would not change the slope of your line in any sense?

A. That is correct.

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[Tr. 10,407] By Mr. Tenney:

Q. Clearly, Mr. Simat, without an examination and analysis of the program which I can't expect you to perform here, you are unable to check the randomness of these numbers, and I shall not ask you to do so, but that is something that you could check by an analysis of the program, could you not?

A. Yes.

Q. I ask you to assume that the numbers were random numbers properly selected for the purpose in the way I have described to you and answer the questions that I will ask you on these regressions on that assumption.

Taking the first sheet of TWA Exhibit 435 for identification, the first process performed on the four random numbers as to rank them in descending order of magnitude. That is essentially the first process performed by you and your colleague, Mr. Eichner, on the numbers that have been produced by Mr. Eichner's analysis in Appendix B, is it not?

A. That was a process that was used. I myself would have tested the range of the data also to see whether or not the random numbers generated were in the same range order of differences as the series that they are purporting to represent.

I notice, for example, that just to pick one at random that I am looking at a page which is headed "24"—I don't know whether that is the 24th run or the 24th page—

Simat—Cross

Q. No, this is the regression on 24 data points. Some 24 random numbers?

A. The range that I observe is from a low value of \$36,779 to a high value of \$786,639 which is a difference of about \$750,000, and in examining the range of profit or loss data for any particular aircraft type or any particular month, I can't find any experience that comes even close to producing such a range.

I think this is generally true of all of the data generated by the random generation technique.

Q. As I understand that statement, Mr. Simat, you have suggested by it that the range of numbers from which these random numbers were selected is too large to be comparable to the ranges of numbers that you were using?

A. Yes.

The range of numbers will affect the calculation of the standard deviation of your Y series, and the larger that standard deviation the higher the cor- [Tr. 10,409] relation coefficient is apt to be.

If you reduce the range and reduce the standard deviation, you would have a tendency of reducing the correlation coefficient.

Q. If you took all random numbers that had been generated within any given range of numbers, could you not reduce or increase the range to any desired extent by multiplying all of the random numbers uniformly by a predetermined constant? For example, if you had selected your random numbers from a range of one million, couldn't you reduce the range to half a million by multiplying them all by .5 and rounding fractions up one perhaps?

A. Yes.

Q. Or you could increase the range by a corresponding process?

A. Yes.

Simat—Cross

Q. That would not change the randomness of the series if it had been properly generated in the first instance, would it?

A. But it would change the standard deviation which is a measure of dispersion arrived at by squaring the differences between each value and its mean.

The larger the range, the larger the standard [Tr. 10, 410] deviation will be.

Q. It is your opinion then, Mr. Simat, that the coefficient of correlation would be decreased if you used a smaller range for this purpose?

A. Yes.

Q. Do you think that would be of material effect in this case?

A. I don't have any means offhand of estimating the effect. I think it would be significant, yes.

Q. You do not believe that it would increase the coefficient of correlation?

A. No. That is, increasing—decreasing the range will not increase the correlation coefficient.

Q. The correlation coefficients achieved by the regressions contained in TWA Exhibit 435 for identification are not printed out directly since this program prints out only the R^2 which is the square of the correlation coefficient, but they can be computed from that R^2 figure which appears about a third of the way up on the left hand side of the first sheet for that particular regression under the heading "Index (R^2)."

That computation can be made, can it not, Mr. Simat?

[Tr. 10,411] A. Oh, yes, take the square root of the figure that is shown.

Q. Without bothering to compute the precise correlation coefficients, it is apparent, is it not, that they would all be above .9 and all except the first two—I withdraw that. They would all be above .9, would they not?

Simat—Cross

A. Yes, some would be just fractionally above .9.

Q. Some would be very close to 1.0, wouldn't they?

A. Some would be very close to 1.0.

Q. Mr. Simat, is not your analysis in Appendix D essentially nothing more than creating a statistical pattern by rankings and random numbers that were produced not by a computer but through Mr. Eichner's analysis, and then deducing statistical conclusions from it?

A. No.

In the first place, Mr. Eichner's analysis did not produce random numbers.

In Eichner's analysis produced a reasoned profit and loss for individual aircraft under certain very definite and consistent methods of obtaining the revenue allocations to those aircraft and the cost allocations [Tr. 10,412] on the basis of experience data.

Q. Do you believe that the correlation coefficients that you print out in your Appendix D are any indication that the results you have achieved are reliable?

A. Yes, I think the correlation coefficients that we obtained indicate that the results that we have shown and obtained by our cost and revenue estimating procedures pretty clearly establish that there are differences in profitabilities among aircraft, which are part of a rational pattern; that differences in aircraft profitability are accounted for by differences in aircraft usage and not by any random effect.

Q. As far as the extent to which your coefficients of correlation furnish any indication of reliability of your results, would it not be significant that a similar regression performed on a properly selected series of random numbers ranked in decreasing order of magnitude produce correlation coefficients as good as the ones that you have developed?

Simat—Cross

A. Well, I do not agree that the random numbers that have been generated by whatever program was used are in any way comparable to the figures that were determined by us from the profit and loss analysis.

【Tr. 10,413】 I already pointed out that the range of numbers is materially different in the two data sets, and this alone is enough to create differences in the regression coefficients or the correlation coefficients I should say.

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【Tr. 10,455】 By Mr. Perkins:

Q. Mr. Simat, you were questioned at various points during the cross examination as to the basis of your opinion that jets, the mere addition of jets or a substitution of jets for pistons did not in itself stimulate new traffic in connection, particularly with the justification for your ratios of .17 per cent and so forth as contrasted with much higher load factors that that many jets obtained in operation during this period.

I ask you whether you have examined some of the prime markets for TWA and its principal competitors with respect to the effect of substituted jets for pistons and adding jet capacity on traffic carried?

A. Yes, I have.

Q. What were the segments that you studied or the markets that you studied, rather?

A. The two primary TWA markets, markets which over the five-year period have ranked Nos. 1 and 2 in TWA's passenger mile volume afford, I think, a particularly 【Tr. 10,456】 good illustration of the effect of jets on total traffic and also the development of jet services over the years, and the resulting diseconomies of services.

Simat—Redirect

I have examined the total numbers of on-line passengers carried by American, TWA and United—these, of course, are the three transcontinental carriers—in the New York-Los Angeles and New York-San Francisco markets—these markets are respectively 1 and 2 among TWA's markets—and I find in looking at the New York-Los Angeles traffic that the annual travel between New York and Los Angeles as reflected in the surveys of the Civil Aeronautics Board has decreased from 1959 from a total of 526,000 passengers to 520,000 passengers in 1960, 450,000 passengers in 1963—
Q. 1961.

A. 1961. Excuse me.

463,000 passengers in 1962, and 515,000 passengers in 1963.

In the case of New York-San Francisco traffic, the experience is quite similar, with the exception that after 1960 the traffic totals reflect not only the impact of the jet but also the impact of a third non-stop transcontinental carrier in the market, American Airlines. [Tr. 10,457] Prior to 1960 or the end of 1959, more correctly, American was not permitted to fly non-stop between New York and San Francisco but was required to serve at least one intermediate point.

In the case of New York-San Francisco traffic, the respective totals for each of the years of the five-year period are 307,000 in 1959, 328,000 in 1960, after American came into the market, 297,000 in 1961, 291,000 in 1962, and 336,000 in 1963. And 1963, of course, was the year of a big gain in the general economy.

Mr. Perkins: Would the reporter mark a two-page document, the first page of which is headed "Annual On-Line Passengers Between New York and Los Angeles Carried by American, TWA and

Simat—Redirect

United, 1959 to 1963," and the second page of which is headed "Annual On-Line Passengers Between New York and San Francisco Carried by American, TWA and United, 1959 to 1963," as Defendants' Exhibit 367.

(Two-page document, first page of which is headed "Annual On-Line Passengers Between New York and Los Angeles Carried by American, TWA and United, 1959 to 1963," marked Defendants' Exhibit 367 for identification, as of this date.)

Q. I ask, Mr. Simat, if Defendants' Exhibit 367 [Tr. 10,458] for identification sets forth the results of his analysis of the traffic carried in those markets in those years.

A. It does.

Mr. Perkins: I offer it in evidence.

Mr. Tenney: Are there any additional work papers on this document?

The Witness: No.

Mr. Perkins: The source is stated as the competition among domestic airlines, CAB.

Q. Are all the figures set forth in that source, Mr. Simat?

A. Yes, the figures are directly derivable from the source. They all appear in the source as separate totals.

Mr. Tenney: This includes both jets and pistons in every instance, as I understand it.

The Witness: Yes. There is, of course, in the source no distribution between jet and piston operations of passenger traffic. Only the single combined total is reported.

Simat—Redirect

Mr. Tenney: The on-line passengers, as I recall it, are based on the origin and destination studies, is that correct?

The Witness: The on-line totals are [Tr. 10,459] derived in the first instance from the survey which the Board calls the origin destination survey, which reports the true origin and destination of the passenger and the passengers routing. Wherever there is a change of airlines involved, the routing disclosed, indicates the combination of airlines used and the points at which the inter-line transfer is made.

The Special Master: Why do you think TWA had a continuous drop during these years in the percentage of traffic that it got in these two markets?

The Witness: There are, of course, a host of considerations that enter into the division of traffic between competing airlines in any one or more markets.

Advertising efforts is one major consideration.

In my opinion, the TWA advertising plan during the period was largely geared to attracting new travelers, the first traveler, and as a result TWA, I think, suffered in terms of percentage participation in the market in many markets where business travel tends to provide a high proportion [Tr. 10,460] of total travel.

I do not believe that the decline occurred because of any lack of equipment or service in the market. There are also—

The Special Master: You think it was their advertising policy.

The Witness: I think advertising policy is a major consideration.

Simat—Redirect

Then there are other problems, of course, or other factors which affect distribution of traffic in the transcontinental markets.

One factor is the identity of the transcontinental airlines on other companies. United has traditionally enjoyed a greater identity in traffic originated at the West Coast terminals because of the extensive service which United supplies on the West Coast of the U. S. between Seattle, Portland and Los Angeles-San Francisco. That is more or less United's home base.

American Airlines has enjoyed a similar advantage in the East because of its extensive services between Boston-New York and Washington.

TWA has lacked the advantage of strong terminal support at both ends. And this advantage [Tr. 10,461] when properly exercised by competing carriers normally does not favor TWA's position in the transcontinental markets.

Mr. Perkins: Do you have any more questions at this point, Mr. Brownell?

The Special Master: I am bursting to ask a few, but I won't.

Mr. Perkins: Was there a ruling on that offer?

The Special Master: No, I don't think so.

In the absence of an objection it will be received.

(Defendants' Exhibit 367, received in evidence, as of this date.)

Q. Have you also made a study, Mr. Simat, of the service offered by TWA, American and United in those same two markets during this period in terms of frequency and type of equipment, at least jet versus piston?

Simat—Redirect

A. Yes, we have tabulated for the month of August in each of the years from 1958 through 1963, the weekly frequencies offered by TWA, United and American eastbound and westbound, and with jet and piston [Tr. 10,462] aircraft. Thus, we have covered all of the frequencies available for the transportation of passengers in what we believe to be a representative month of the year. August is either at the peak or near the peak of transcontinental traffic.

Our figures indicate that there has been a very steady increase in the amount of jet capacity that has been offered, and, in fact, the amount of total capacity that has been offered over the years in the face of this static or even declining trend in the total volume of traffic.

By approximate calculation, the total number of seats offered by all three carriers over the period has doubled or more than doubled in both the New York-San Francisco and New York-Los Angeles markets.

So here we have a case which I think is probably as illustrative as any that could be obtained for establishing the economics of jet operations.

Q. Have you prepared a tabulation, Mr. Simat, showing for each of these airlines and for the month of August and each of these years the weekly frequencies and whether they were performed by jet or piston service?

[Tr. 10,463] A. Yes, we have.

Mr. Perkins: I ask the reporter to mark as Defendants' Exhibit 368 for identification a three-page document, the first page of which is headed "UAL-TWA-AAL, Combined Transcontinental Non-Stop Scheduled Frequencies Per Week-August 1958-1963," the second and third pages consisting of the detailed data upon which the first page is based.

Simat—Redirect

(Three-page document, first page headed "UAL-TWA-AAL, Combined Transcontinental Non-Stop Scheduled Frequencies Per Week-August 1958-1963," marked Defendants' Exhibit 368 for identification, as of this date.)

Q. Is this the tabulation you just referred to, Mr. Simat?

A. Yes, it is.

Mr. Perkins: I offer it in evidence.

The Special Master: In the absence of objection it will be received.

(Defendants' Exhibit 368, received in evidence, as of this date.)

Q. From this study of the history of traffic in those two markets, 1959 through 1963, in relation to the services that were offered, what conclusions do you draw with respect to the stimulus afforded by the [Tr. 10,464] addition and expansion of jet service during these years on traffic?

A. I think it is apparent from the traffic totals that the jet itself has had little or no impact on the stimulation of additional traffic.

Consequently, it appears apparent that the economics of adding capacity are largely the economics of stealing traffic from a competitor and in monopoly situations where there are no competitors, the economics of jet operations require the substitution of jet capacity for piston aircraft capacity on a seat mile per seat mile basis in order to realize the economics of jet operations, but in no event does it appear that there is any gain to be realized from the addition of capacity qua addition of capacity.

The Special Master: There is an obvious error there in the 1960 TWA figures. It does not show any eastbound flights at all, New York-San Francisco.

The Witness: We will examine that as soon as I can obtain the scheduled information. . . .

**Excerpts From Testimony at Damage Hearing of
L. John Eichner**

[Tr. 10,158] L. JOHN EICHNER, called as a witness, being first duly sworn by the Notary Public (William Blitz), testified as follows:

Cross Examination by Mr. Tenney:

Q. Mr. Eichner, first I understand that you are an officer of the corporation Simat, Helliesen & Eichner.

A. I am.

Q. Of which Mr. Simat who has been testifying here is I believe president.

A. Correct.

Q. I understand that you desire to adopt as your direct testimony in this proceeding Part II of Defendants' Exhibit 359 which is—359A, I should say, which is Volume A of the supplemental report of Simat, Helliesen & Eichner, Inc.?

A. I do.

Q. Mr. Eichner, in this portion of the report—I may refer to it occasionally as the report, but we are talking about this portion of the report, as I understand it, you have attempted to analyze what historically occurred in TWA's operations in the period 1959 to 1963, is that correct?

A. Correct.

[Tr. 10,159] Q. In doing so, you have made use, I believe Mr. Simat explained, of the traffic information which you have derived from a study of TWA's internal records, including the on-board reports and similar information that were supplied to defendants by TWA at your request last fall.

A. That is correct.

Q. As I understand it, none of the figures that you have set out in Volume A are based upon the competition studies

Eichner—Cross

or similar information which we have been discussing at considerable length with Mr. Simat?

A. Not in the appendices. And I'm not sure about the body of the report if we referred to it or not and I believe we did in some footnotes.

Q. Appendix A sets out in tabular form the specific analysis that you have made of the historical operations in that period with respect to jets, is that not correct?

A. That's correct.

Q. Would you turn to the month of June 1959 in Appendix A?

The first column is headed "B-70 A/C NUM."

Would you state what that heading means?

A. These are B-707-131 aircraft which we numbered [Tr. 10,160] arbitrarily from the routing charts which we were furnished by TWA.

Q. The fact that that column contains seven entries running from 010 to 070 reflects the fact that you identified seven aircraft in operational service in that month, is that correct?

A. That's correct.

Q. These numbers do not, as I understand it, purport to represent specific aircraft in the sense of a physical object, one physical object, do they?

A. Not in the sense of an NC numbered aircraft. Yes, in the sense of an aircraft which was an investment of TWA and which was shown as an active aircraft on their routing chart.

In other words, on their routing chart they showed seven actives in the upper left hand corner. Each of these numbers represents one of those actives the way they had them routed and as detailed in Table G and GG.

Q. But 010 actually represents a flight pattern for one day and not a particular aircraft, is that not correct?

Fichner—Cross

A. It represents a flight pattern for one day which would not have been possible if they had not had [Tr. 10,161] that aircraft.

Q. But that flight pattern might be flown on any given day by any of the seven aircraft that they had, is that not correct?

A. As we stated in our report, it usually—the pattern was for TWA to rotate each one of the seven aircraft through all seven patterns but if they had had only six active aircraft, then there could have only been six numbers there and the seventh one would have had to have been dropped.

Q. Since you have designated these units as aircraft, I think that we will probably frequently be referring to them as aircraft in the course of this cross-examination, and I would simply like to get it clear on the record, right now, and as clear as we can make it, that the entries that you have listed here as A/C number such and such are really 24 hour flight patterns from the routing chart, that is, what a particular aircraft, but not necessarily the same aircraft, is doing on a 24 hour period? It is a pattern? It is a routing pattern and not an aircraft?

A. I think I might have a semantic problem, Mr. Tenney. TWA itself called them operating units. They said they had seven operating units and I think that's [Tr. 10,162] probably as good a way to refer to them.

The Special Master: What you are saying then if you are talking about the New York-Los Angeles run that it might be one physical airplane one day and another physical airplane the next day? It does not mean the same NC number?

Mr. Tenney: That is correct.

Eichner—Cross

Mr. Perkins: I think that is all set forth in a good deal of detail at the very beginning of our report.

The Special Master: Yes, but he is trying to educate me.

Mr. Perkins: Yes.

Q. The way you have selected these numbers is, I believe, by looking at the routing chart—and perhaps for this purpose it would be helpful if we did pull out the routing chart for June of 1959—I am sorry we did not—

A. I have one for June of 1959 here if you want to use it across.

Q. You have taken the patterns shown in order from top to bottom along the left hand side of the page—

A. Usually.

Q. —have you not?

[Tr. 10,163] A. Usually.

Q. In every case that we found you had done so?

A. In every one that I did personally I did it that way, but some of the people helping me after a while took them slightly out of order.

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[Tr. 10,167] Q. The two columns just before that "Average Length"—I should say the column just before that "Average Stage Length" presumably is a numerical average of the average stage length set forth for the specific segments in Table GG, taking into account the number of departures for each segment, is that correct?

A. Correct.

Q. The passenger revenues from which the total revenues are computed as you have just described take into account all passengers on board in that segment and no

Eichner—Cross

solely what Mr. Simat has described as on-board passengers, is that not correct?

A. That's correct.

Q. "Average Passenger Load Factor," the heading for the third column in Appendix A, is a similar computation derived from the load factor figures set out for particular segments in Table G, am I correct?

A. That's correct.

Q. The last four columns in this particular table which are "A/C OPER"—"GRND plus IND"—"Total OPER" and "Profit/Loss"—would you state what each of those headings is intended to cover?

A. A/C OPER covers the aircraft operating expenses [Tr. 10,168] for the direct operating cost of the flight. In Table—in Appendix A, it would include the block-hour cost for the crews, for the fuel consumption, for the maintenance and maintenance burden, for the—all insurance and depreciation and aircraft rentals, if any.

The GRND and IND represent the ground and indirect expenses such as aircraft servicing, traffic servicing, stewards, other passenger service expenses and so forth.

Total operating is the sum of those two columns and profit and loss is the difference between the total revenues and total operating expense.

Q. In the case of ground and indirect costs, how have you derived that figure for the particular aircraft unit that is described as aircraft No. 010?

A. We used the methods that were described in the Volume II of the first report. We computed the aircraft servicing costs based upon a weighted departure which was the available tons times the departures.

The traffic servicing was based as described in the first report.

Eichner—Cross

The stewardess expense was based upon four hostesses per jet as we described in the first report.

The passenger servicing expense other than [Tr. 10,169] stewardess expense varied with the loads that we had on board.

The advertising varied with the traffic.

The general administration is varied with all other cash costs.

If you wish I could do it with a pencil and paper while we recess and bring you back a pencil and paper for the record if you want to.

Q. I don't think it will be necessary at all.

The point that I would like to make clear, and I think perhaps it is clear from your answer, is that the ground and indirect expenses, specifically, represent an allocation to this particular operation of expenses that are only recorded on an overall basis by TWA, am I not correct?

A. These are expenses which are only recorded on an overall basis by TWA, but which by our costing method is developed in the first report and by TWA's own internal costing methods tend to vary with the operation.

If you add a departure from O'Hare to LAX on Flight 27 the first trip listed here you have to add people to service it, and it reflects that additional personnel.

Q. One final question to round out the description [Tr. 10,170] of this table, the second column which we have not discussed yet is headed "Rank." Rank is simply the numerical order of profitability that you have determined for these aircraft units as set out in the last column, am I not correct?

A. That's correct.

Q. If, for example, a particular aircraft pattern in the month of July were relatively more profitable than in the

Eichner—Cross

month of June, its rank in the month of July would be different than it was in June, is that not correct?

A. That's right.

Q. It does not represent the order in which aircraft were received or necessarily the same aircraft number from month to month?

A. No. The only purpose of the ranking was to show that as additional jets were delivered, some jets were quite profitable and remained quite profitable, but other jets became less profitable or became losers.

Mr. Tenny: We will go into how this is used in some detail later on.

* * * * *

[Tr. 10,209] * * * Q. Using this averaging approach that you have used, if we look, say, at the next aircraft unit that you have identified in that same month which has an average stage length according to Appendix A of 2538.26 miles—that is a transcontinental trip, is it not, Mr. Eichner?

A. Yes, sir, it is.

Q. Can you tell us what segment that presumably [Tr. 10,210] is flown on?

A. If you are referring to aircraft No. 030—

Q. Yes.

A. That was flown on segments—it was scheduled between San Francisco and New York and New York and San Francisco. And it had some irregular operations involved.

And also on a segment between San Francisco and Baltimore.

Q. On segments of that length, it really is unlikely at the very least, that the passengers would be flying by TWA an average trip length of 1.435 times the segment length, is it not?

Eichner—Cross

A. Yes, it is.

Q. In general, therefore, your approach has tended to minimize the revenues associated with the longest segments, is that not correct?

A. I would not use the word minimize, Mr. Tenney. So I would say no.

It has tended to approximate the revenues on the longer segments more accurately than other methods which have been used in this case. But it is not as accurate as using the data which we later obtained from the station performance report which would result in [Tr. 10,211] slightly higher revenues.

Q. As a matter of fact, the ratio that is recommended on Page III-22 for segment lengths in this range over 2500 miles, this being the ratio that I take it Mr. Perkins would prefer that I question you about, the ratio is 1.01 for 1959 and over the five year period after ranges 1.00, does it not?

A. Yes.

The ratio shown on Page III-22 which gives a more precise estimate of both revenues and expenses would be 1.01.

Q. That would produce a higher total revenues figure for this long range flight, is that correct?

A. A slightly, very slightly higher revenues figure for this long range flight on the magnitude of \$10,000 out of approximately \$922,000.

Q. Once you have determined a passenger revenues figure, what have you done to transform that into a total revenues figure?

A. We added five per cent to it for cargo.

Q. Do you think that the use of across the board indication of five per cent for cargo revenue is an accurate reflection of TWA's historical jet operations?

Eichner—Cross

A. I believe we stated in a footnote in one of [Tr. 10,212] the reports which I believe I wrote that we wanted to explore this problem and we just did not because of the lack of time. It was a figure that was used throughout the case and we saw no reason to question it.

Q. You have examined, have you not, Mr. Eichner, the report put in on behalf of TWA by Coverdale & Colpitts as Mr. Wemple's testimony in this proceeding?

A. Yes.

Q. At Volume I, Page 31 of that report which constitutes testimony in this proceeding, the only evidence which has been produced on this subject is stated that in the Domestic Division the proportion of cargo revenue to total revenue varied in the five year period between 7.1 per cent and 8.5 per cent.

Do you see those figures in that table on that page, Mr. Eichner?

A. Yes, sir.

Q. Actually, that being a percentage of total revenue, it would be slightly higher as a percentage of passenger revenue, would it not, because of the smaller base?

A. That's correct.

Q. Mr. Wemple has testified that he used the five per cent figure for estimating additional cargo revenues, [Tr. 10,212A] although historically the proportion was from 9 to 12 per cent. He has rounded the figures up there at the top of Page 31.

But you, Mr. Eichner, are supposed to be dealing with historical figures in Appendix A, are you not?

A. That is correct.

[Tr. 10,213] Q. Why did you not use the historical ratios that have been testified to in these proceedings?

Eichner—Cross

A. Well, because it would have been obviously incorrect to use 9 to 12 per cent of the total operating revenues which includes the all-cargo operations of TWA.

Mr. Tenney: Would you read that answer back, please?

(The answer was read.)

Q. I think you stated a few minutes ago that the ratio if related to passenger revenues solely would be even higher, did you not—

A. Yes, sir.

Q. —because of the smaller base?

A. I said—we were referring to the 7.1 to 8.5 per cent shown in the first column.

When you referred to 9 to 12 per cent you are referring to the per cent of cargo shown in the last column which includes the international where a much higher ratio is included.

Now, I testified in response to your question that if you were referring to a ratio between cargo revenue and passenger revenue instead of cargo revenue to total revenue which Mr. Wemple used, then you would have a somewhat higher percentage than the one shown in this [Tr. 10,214] column of 7 to 8.5 per cent.

Q. Why did you not use 7 to 8.5 per cent or something somewhat higher instead of 5 per cent, Mr. Eichner?

A. Because it would have been incorrect.

Q. Why would it have been incorrect? Would you enlighten me, please?

A. Because the cargo revenues for the Domestic Divisions includes the cargo revenues on the all-cargo flights.

Q. You have and have had available to you information on all cargo departures performed by TWA historically as well as other flights, have you not, Mr. Eichner?

A. That's correct.

Eichner—Cross

Q. Do you happen to know whether there were any all-cargo jet flights during the month of June, 1959?

A. There were none.

Q. As a matter of fact, it was not until 1963, was it, that all-cargo jets were introduced by TWA?

A. That's correct.

Q. It is a fact, is it not, that most mail and cargo shipped by air moves in the late evening and early morning hours, rather than during other hours of the day, Mr. Eichner?

A. This is correct.

Excuse me. Let me just modify that answer [Tr. 10,215] slightly. It is shipped during the evening hours. However, the number of flights operated by an airline such as TWA is much less during the evening hours than it is during the daytime.

So the evening flights will have a tendency to carry a higher cargo load than daytime flights, but in the totals, whether more moved at night or in the daytime, you can't say unless you examine the figures.

Q. Since most of it is shipped at night, do airlines not specifically schedule some flights at times during the late evening and night hours that are intended to be particularly convenient for cargo and mail shipments?

A. Occasionally they do. It was very seldom that they did this with jets during the early period that we are speaking of.

Q. What period do you mean to cover?

A. June, 1959.

Q. Did it become common during the total five-year period that we are considering through 1963?

A. It never became common, because passenger jets were so expensive to operate for cargo trips, but it was done occasionally as we all became desperate in 1961 and

Eichner—Cross

1962 to use these jets profitably and try to find [Tr. 10,215] profitable uses for them.

Mr. Tenney: Would you mark this document as TWA Exhibit 423 for identification, it being a four-page document headed "Schedules of Flight 15."

(Document headed "Schedules of Flight 15," marked TWA Exhibit 423 for identification, as of this date.)

Q. Mr. Eichner, TWA Exhibit 423 for identification is a takeoff of schedule information for a flight flown by TWA's Flight 15 taken from the employees' timetables which are TWA Exhibit 4C3 for identification and covering the pertinent information on Flight 15 from the inauguration of that flight during June of 1961 through December of 1963.

I believe that from your study of the schedules you have examined some of this information on Flight 15, have you not?

A. We have examined the passenger information on Flight 15.

Q. Flight 15 appears in the routing charts of that period that you have studied for purposes of determining aircraft units for this analysis, does it not?

A. Yes.

Q. Throughout this period, Flight 15 was flying in the hours immediately around midnight, was it not?

[Tr. 10,217] A. That is correct.

Q. The on-board reports cover for individual flights not just passenger information but also cargo loads, do they not?

A. They show the mail, express and freight loads.

Eichner—Cross

Q. From those mail, express and freight loads, using experienced yield factors, it is possible to compute for a particular flight the amount of revenue obtained by TWA in return for its transportation of air mail, express, freight and baggage, is it not?

A. It is possible to make an estimate on a different basis than the 5 per cent average that we used, but whether or not it would be a better estimate, I could not say until I made a study of those yields and of the way they taper.

Now, the reason for this is that there is a much stronger taper in cargo rates than there is in passenger rates. They go down much more sharply with distance. As an example, in the Post Office Department, they pay the airlines such as TWA a multi-element rate so much for loading each pound on a plane, so much for each ton mile of line haul or pound mile of line haul.

This means that you have a much sharper decline in your yields. And for anyone to make a statement as to what the results would be without having made a study of [Tr. 10,218] these tapering yields it would be impossible.

Q. Is it not probable in your opinion that Flight 15, flying at the time that it did, on the route that it covered during the period 1961 to 1963, had proportionately a substantially greater part of its true total revenues derived from mail, express, freight than the average of TWA's fleet?

A. It is possible that if the operation were a dependable one that it did.

Q. If a particular flight derives only a small portion of its revenues from passenger service and a larger portion of its revenues—at least proportionately—from cargo operations, does your method as applied in Appendix A not tend to distort the results of the operations of that aircraft unit in a downward direction?

Eichner—Cross

A. It would tend to distort the total revenues in a downward direction, just as we have undoubtedly overstated revenues in an upward direction for many afternoon and evening flights, early evening flights.

Q. So that it exaggerates the difference then between those two aircraft if the late night aircraft hauling a larger portion of cargo in it turned out in your analysis to be a less profitable aircraft? The difference between that and the other aircraft is exaggerated by your [Tr. 10,219] method, is it not?

A. The differences between your high passenger aircraft which don't have much room for cargo and your very low passenger loads which were carried on trips such as 15 which showed heavy passenger losses tends to be dampened by using the average 5 per cent method.

Q. What do you mean by dampened?

A. It means that the cargo revenues are overstated on many of the jet flights shown in GG by using the 5 per cent average and they are understated on a few other trips. And we know that these were relatively few because there were relatively few flights operating late at night.

Q. You used the word dampened. Do you mean exaggerated? That was my question.

A. No, sir. The cargo revenues which are credited are dampened by using a 5 per cent average. The total revenues, excuse me, are dampened by using a 5 per cent average.

Q. In January of 1962, for example, we have found from Table GG that you have classified Flight 15 with aircraft unit No. 080, which appears on page 71 of Appendix A.

Can you confirm that, Mr. Eichner?

A. Which type of equipment is this, Mr. Tenney?

[Tr. 10,220] Q. This would be Table GG for January, 1962. Flight 15 is classified, I believe—

Eichner—Cross

A. It is a 131, isn't it?

Q. 131. Classified with aircraft unit 080?

A. Yes, sir.

Q. 080 ranks on page 71 of Appendix A as the eighth ranking aircraft by profit and loss computations in that month.

If you added to the total revenues shown there, which are \$577,000 an additional, say, \$80,000 for cargo revenues, perhaps taking a portion of them proportionately from other aircraft, would that not tend to decrease the difference that you have reflected between the profitability of this eighth ranking aircraft and the aircraft that you have listed above it?

A. Yes, and perhaps your question is illustrative of what I mean by dampening.

You can increase the revenues of a plane such as 080 and reduce the losses on that one but then you increase the losses and perhaps this plane No. 090 which is marginally profitable for the month or 160 which only earned \$7000 then become loss figures if you juggle the figures.

Q. I am not juggling the figures, Mr. Eichner. You [Tr. 10,221] are juggling the figures. You are the person who is putting in perfectly constructed figures on cargo revenue and drawing conclusions from them.

A. Is that a question, Mr. Tenney?

Q. Do you consider an accurate computation of cargo revenues a matter of juggling figures?

Mr. Perkins: I object. I don't think this is getting us anywhere. Why don't you just ask questions?

The Special Master: I think I have both points of view in mind.

Mr. Tenney: I ask that this document be marked as TWA Exhibit 424 for identification consisting of

Eichner—Cross

a cover summary sheet and six pages of work papers and ten pages of on-board reports from which information has been taken with respect to Flight 15 in the month of January, 1962 breaking out not only passenger revenue, but also air mail express, freight, first-class mail and baggage.

(Cover sheet entitled "Analysis of Revenues TWA Flight 15, For Departures Included in SHE Table GG, January 1962," six pages of work papers and ten pages of on-board reports, marked TWA Exhibit 424 for identification, as of this date.)

[Tr. 10,222] Q. I show you TWA Exhibit 424 for identification. The on-board reports attached as the last set of attachments are copies of on-board reports that have been previously delivered to you, are they not?

A. They are similar to many on-board reports which we have received, that's correct.

Q. By the process of identifying the work sheets, cargo revenue for this month for TWA Flight 15 has been computed and related to passenger revenue, and computed as being in the proportion of 58 per cent.

Is that a relationship that you consider an expectable relationship in order of magnitude from your experience in the airline business?

A. TWA 424 does not impress me as having all the facts stated, and I would say no.

Q. What would you expect the order of magnitude of this relationship to be?

A. I would have no idea until I had a chance to study much further.

It could be half as much as the 58 per cent if the yields taper as much as I think they do.

Eichner—Cross

Q. There isn't any possibility at all it could only be 5 per cent, is there?

A. No, I would not say there would be 5 per cent on [Tr. 10,223] this one flight in the month of January, 1962 which is a very low seasonal month in the California market.

Q. A few minutes ago, Mr. Eichner, I believe you stated that during the daytime hours jets that were flying relatively full from the passenger standpoint did not have much room for cargo? Is that about what you said?

A. No, I said they had less room available for cargo.

Q. Do you happen to know how much room the 131 aircraft has for cargo on top of all baggage expected when it is flying full in the configurations that TWA normally flew it then?

A. Well, normally you would use a figure of somewhat less than 10,000 pounds depending upon the reserve fuel policy of the pilots.

Q. One more question on this general line. Are you familiar with the Post Office policy which is sometimes referred to as the flight of value consideration?

A. Yes.

Q. I wonder if you could just briefly describe what that policy is.

A. During this period, somewhat later than June, 1959, but during 1961 or 1962, the Post Office Department had been having problems in getting its mail transported [Tr. 10,224] because the mail was moving in the evening and there were very few flights provided by the airlines to move this mail at the time the Post Office desired. They wanted departures around 11 o'clock or midnight from the New York area, for example, to go to the West Coast.

No airline—there was not enough passenger traffic to put on such a flight, and no airline was willing to put on

Eichner—Cross

such a flight without some assurance that the Post Office Department would continue to give it the mail loads once it put it on and had experienced the passenger losses, which it was bound to incur such as Flight 15 demonstrated.

The first flight that I believe that was put on was an American Airlines flight out of New York to the West Coast, and it was designated by the Post Office Department. United Airlines and TWA promptly tried to match it with a non-stop flight to the West Coast and they were not given any air mail on their flights.

This has since spread to a few other markets.

Mr. Tenney: Would you read back the last part of that answer?

(The answer was read.)

Q. It is quite possible, is it not, that an aircraft flown for the specific purpose of attracting that type of cargo, air mail cargo, might, in fact, be overall profitable [Tr. 10,225] while an analysis directing attention solely at passenger revenues would make it appear to be unprofitable? Is that not possible?

A. Yes, Mr. Tenney. As we said before, this would be a desirable refinement in our report if we could have punched all the mail, express, and freight information and if we could have obtained accurate yield information rather than using averages such as these in TWA Exhibit 424 which we know are incorrect.

Q. But, of course, by your ranking system if one of the lower ranking aircraft were moved up in relative profitability, its numbered space would just automatically be taken up by another aircraft which was forced down by your method, is that not correct?

A. We are dealing with historical facts and figures and that is correct, because we are dividing up the pie of rev-

Eichner—Cross

ences between these flights and we were in a situation of excess capacity.

If you make one loser profitable then you have to make another profitable plane a loser.

Q. If an analysis of an apparently unprofitable airplane proved that it were profitable by making a closer examination, a refinement I think you have called it, of its revenues from air mail and similar sources, if, as I [Tr. 10,226] say, such an analysis showed that this apparently unprofitable airplane were profitable, then quite without any necessity of making some other airplane unprofitable, doesn't your method automatically force down in ranking something to fill up that last hole that you have there?

A. Yes.

Q. Just one more point as to how some of these identifications work which I would like to illustrate by reference to the CV-880s for the months of August, September and October, 1962 and first Appendix A.

Would you turn to those pages, please?

In each of those months, I find under the heading "ACNUM" which we have identified as being a unit aircraft which you have determined from your examination of the routing charts—I find in each of those months an Aircraft No. 150.

Can you confirm that for me?

A. Yes, sir.

Q. In the month of August, Aircraft No. 150 ranks as No. 7, if I have this correctly.

I am not entirely sure we have the right example here, but essentially, and I think perhaps you can simply give me an answer without my making the statement which might be a little inaccurate as to which aircraft is involved.

Eichner—Cross

[Tr. 10,227] This 150 which appears as No. 7 in August of 1962, and then the 150 which appears as rank No. 11 in September of 1962—excuse me.

No. 16 in September of 1962, and then has still a different rank number in October of 1962 of 11—those are not only not necessarily the same physical aircraft but they are not even necessarily the same routing pattern, are they?

A. That's correct.

As I see, Flight—Aircraft No. 150 in August involved Flight 185, which went from New York to Kansas City to Albuquerque, and Flight 184 from Albuquerque to Kansas City, and Flight 46 from JFK to Boston.

Whereas, in September, Aircraft 150 became an even shorter haul jet operating between points such as New York and Columbus and Chicago with a very short average length of hop.

Q. And in October of 1962, it has still a third entirely different pattern, is that not correct?

A. In October of 1962, the aircraft, the 880 aircraft designated as 150 was operating trips 91, 132, 159 and—excuse me. Just those trips apparently. No, 157 and 160.

Q. That does not necessarily mean that the other trips were not being operated also, perhaps under some other [Tr. 10,228] aircraft identification number?

A. The other trips are shown in GG—all of the other trips which were scheduled with 880s are shown in GG, and the numbers, as I stated before, are purely for identification so that we may discuss them.

Q. For identification, they should be relied on only on an individual month basis? And that is the point I am trying to get across. You cannot follow that number from

Eichner—Cross

month to month and in any sense at all regard it as being a development of a particular plane, is that correct?

A. That is correct as far as the aircraft number is concerned.

Mr. Tenney: I just wanted to get that clear and I think this would be a good time for a luncheon recess.

The Special Master: All right, 2:00 p.m.

(Whereupon, at 12:30 p.m., a luncheon recess was taken.)

[Tr. 10,229] * * * Q. Mr. Eichner, for my next point, I would like to refer to a particular month that I have chosen by way of illustration—it involves a number of months—and that is the month of June of 1960 for the B-331 aircraft.

Table GG is our source—I believe for the seat miles offered in that type of aircraft in that month, and for the passenger miles which were carried. I don't think it is printed out in Appendix A.

Am I correct in that?

[Tr. 10,230] A. That's correct.

Q. The totals for the month by fleet type are not printed out in your Table GG, but they can be added up and actually, as we have ascertained, totals of that type can be obtained from the tape, the computer tape that you provided us with by simply writing a program to tell the computer to add them up and print out the results.

Am I correct in that?

A. Yes, you are correct. Many types of analysis can be made from GG and the GG tapes.

Q. We have added up the seat miles and passenger miles for the B-331 aircraft for the month of June 1960 from GG and we get for seat miles 17,887,020 and for passenger miles 15,623,310.

Eichner—Cross

We have done the same thing for July of 1960 and obtained the figures respectively of 38,585,418 for seat miles and 28,397,467 for passenger miles.

We have checked TWA Exhibit C and C3(2), which is TWA's Schedule 3-70M, which are operating statistics for TWA's Domestic Division for those particular months, and to our surprise we have obtained in each case approximately a third more seat miles and a third more passenger miles according to TWA's operating statistics than are reflected in your Table GG.

[Tr. 10,231] I believe that that which is illustrated by these two months is true in substantially every month.

Are you aware of that and can you give me some explanation?

A. Yes, I can explain this.

Mr. Markham has been furnishing me with the routing charts and he is not here right now, so I will do it from memory, subject to check.

But as you recall, as we said in the book, we used the routing charts to route out the different fleets.

In this particular month the 331s, as I recall, are on the 131 routing charts. And there is only one 331 routing shown which is the one which appears in Table GG and which also appears in Table A as 010, making a profit of some 355,000, a very profitable transcontinental trip.

However, there is a note at the top of the routing charts that Flights 90 and 91 are also routed but are not shown on the routing chart.

Flights 90 and 91 are shown in the employees' timetables as being operated with 331s, but they were not shown on the routing charts, so we did not know what the complete aircraft day was of the routing, so we don't put them in the IBM runs.

Eichner—Cross

[Tr. 10,232] I have priced them out manually and I found that they were marginally profitable. But that's the reason they don't appear in here and that's the reason they don't appear in the discrepancy. It was in the underlying material that you furnished us.

Mr. Tenney: I ask that this table be marked as TWA Exhibit 425 for identification.

This is a document I have just shown the witness.

(Table headed "June and July 1960—Comparison of Table GG and TWA Exhibits C and C-3(2) (Schedule 3-70M)," marked TWA Exhibit 425 for identification as of this date.)

By Mr. Tenney:

Q. TWA employed B-331s for its international routes, did it not?

A. Yes, sir.

Q. On many occasions were there not domestic legs of flights that also had an international leg as an otherwise continuous flight?

A. Yes, sir.

Q. We have tried to determine from Table GG whether the domestic legs of international flights have been taken into account at all and our best impression—we [Tr. 10,233] can't be absolutely sure, but our best impression is that the domestic legs of international flights have not been reflected in your Appendix A or Table GG and it occurs to me that perhaps the flights that you were referring to, which I don't happen to know the details on, might be an example.

Do you happen to know whether in general domestic legs of international flights have been for some reason excluded from your analysis?

Eichner—Cross

A. In general, if they do not appear on the domestic routing charts, they have been excluded from our analysis because, as we said, we only included flights shown on the domestic routing charts.

This happens to be an unusual circumstance that you are calling attention to and I don't recall very many other occasions when we found a routing chart with notes such as this one has at the top: "Does not include Flights 90 and 91 B-331, 405 hours, 1480 miles."

This was a flight that happened to operate as a round trip between New York and Chicago. It is the first New York-Chicago flight TWA put on.

And I have no idea why they specifically excluded it from this routing chart. The other 131 that operated, Flight 100 and Flight 1, which were transcontinental trips [Tr. 10,234] from Los Angeles to New York, are included. Evidently, there was some special reason which we do not understand, which they do not explain to us, so we do not include it.

Mr. Perkins: Did you mean to say 131?

The Witness: 331. But it is on the 131 chart.

Q. So that there are at least those two types of situations—one, the unusual situation you have called attention to on this particular routing chart, and the other, the situation involving a domestic leg of an international flight in which your 331 statistics in Appendix A are incomplete, am I correct?

A. They are complete for what is shown on the routing chart, Mr. Tenney.

Q. You had comparable information for international flights, did you not, Mr. Eichner?

A. I understood from the Special Master that we were to exclude the international operations from this supplemental report.

Eichner—Cross

Q. The domestic legs of these international flights are part of the Domestic Division operations, are they not?

A. But they are not shown on the domestic routing charts, that's correct.

Q. I go back to my original question. In at least [Tr. 10,235] these two respects, the statistics that you have set out with respect to the B-331 aircraft in your Appendix A are incomplete, are they not?

A. Yes, with regard to the very small number of international trips which operated domestically, they are excluded. But as far as international passengers which occurred on the domestic trip shown, of course they are included in the on-board data.

Mr. Tenney: Would you read the answer back?
(The answer was read.)

By Mr. Tenney:

Q. But you have not reflected those statistics in your Appendix A, have you, Mr. Eichner?

A. No, sir.

Q. I really only have one other thing I would like to get on this point, Mr. Eichner. You have said it was very small.

We have not checked the totals, but we have checked those two months that are set out in TWA Exhibit 425 for identification, and we spot-checked four other months, two of them in 1960 and two in 1961—I shan't bother setting out the figures—but in every case we had just about the same proportion as is shown here on [Tr. 10,236] TWA Exhibit 425 for identification.

Whether it is very small or very large, is that about the proportion, overall, that has been omitted from your computations? Do you know the answer to that?

Eichner—Cross

A. I know the answer to that. And the answer is no, that is not the proportion, overall, which has been omitted from our computations, because I did a comparison to satisfy myself that we were getting reasonably complete answers in this initial run of GG in Table G which supports Appendix B.

And I took the entire B-131 fleet and the Convair 880 fleet and the entire B-131B operation, and I found out—because these were the major things we were speaking about in this case, the deliveries of the 131s and the 880s, for example. And these were the planes that were showing very large losses during the damage period.

And I found out that we had accounted for 97 per cent of the B-131 passenger miles in 1959, 97 per cent of the B-131 passenger miles in 1960, 93 per cent of the B-131 passenger miles in 1961, 88 per cent in 1962 and 86 per cent in 1963.

I found that on the 880s we accounted for 99 per cent in 1961, 90 per cent in 1962 and 89 per cent in 1963.

[Tr. 10,237] I found that we similarly accounted for very high percentages of the aircraft days which means of the depreciation and of the aircraft miles. And I will be glad to furnish you this table.

Now—

Mr. Tenney: I move that so much of Mr. Eichner's answer be stricken because I am clearly asking him a question with respect to the B-331s.

The Witness: Excuse me, Mr. Tenney. I had understood your question to be directed to Table GG.

Mr. Tenney: I believe that my question clearly is directed to the proportion of omitted material with

Eichner—Cross

respect to B-331s, as indicated by the samples shown in TWA Exhibit 425 for identification.

The Special Master: Let us read the question back.

(The question was read.)

The Special Master: I will allow the answer.

By Mr. Tenney:

Q. You just heard my question, Mr. Eichner. Would you understand it, please, as confined to B-331s and can you answer that question?

[Tr. 10,238] A. I believe that the answer is that more of the 331 statistics are omitted from GG because the routing chart information which we got was much more—much poorer on the 331s than it was on the other major fleets.

The Special Master: What percentage?

The Witness: I would estimate that approximately 80 percent of the 331 operations are included. Should I answer—give a reason why this happened?

The Special Master: No.

Mr. Tenney: I think you already have, Mr. Eichner.

The Special Master: Yes.

The Witness: Okay.

By Mr. Tenney:

Q. I believe among other things you testified, did you not, that you did not consult the routing chart information and comparable information with respect to international flights that was made available to you; is that not correct?

A. That's correct, we did not use the international routing charts.

Eichner—Cross

Mr. Tenney: I offer TWA Exhibit 425 in [Tr. 10,239] evidence.

Mr. Perkins: No objection.

The Special Master: Received.

(TWA Exhibit 425 received in evidence as of this date.)

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[Tr. 10,241] Q. I would like to compare that aircraft with another Convair 880 which appears in the table for the month of November of 1961. That Convair 880 is designated as aircraft unit 030.

Do you see that aircraft on that table?

A. Yes, sir.

Q. It is listed as having an average stage length of 753 miles—correction—734 miles. It is within less than a mile of the average stage length of the first aircraft I called your attention to.

It has an average load factor indicated of 60.53 which is two and a half per cent higher than the load factor for the first aircraft that I called your attention to.

I shan't bother reading the total revenues and total operating expenses, but it has a net loss figure opposite it of \$13,723.

Do you see those figures on the table?

A. Yes, sir.

Q. Just to be complete with another potentially significant figure, we find on Table GG that this aircraft had 109 departures in the month of November 1961, which compares with 108 for the other aircraft. So there is a difference of only one departure. That, of course, [Tr. 10,242] you could confirm from Table GG, if you wish.

Can you explain to me why two aircraft of similar type flying precisely the same average stage length, almost

Eichner—Cross

identical number of departures in the months in question, should produce a significant loss for the aircraft with the higher load factor as opposed to a significant profit for the aircraft with the lower load factor?

A. Yes, sir.

Q. Will you please explain that to me?

A. In 1961, TWA's aircraft maintenance and maintenance burden expense per revenue block hour which is the basis for the expenses in this report were \$294.82 for the Convair 880. They were \$311 in 1962 and in 1963 they dropped to \$183.15 per block hour.

This is a substantial reduction in block hour cost on the 880s. And it was due to the reversal of maintenance reserve in 1963 as I recall, but that is subject to check as an explanation for this very large difference.

Large variations in expense like this from time to time are one reason why it is dangerous to deal in averages in forecasting what revenues and expenses and profits are on individual aircraft flights and why [Tr. 10,243] this detailed analysis that we have done is the only proper way to do such an estimating job.

Q. I take it that the total block hours for the two aircraft in the two months in question were very close, is that not correct?

Actually, I have 194.77 for A/C No. 30 in 1961 and 190.45 for A/C 50 in 1963.

The Witness: May I have that question read again, please?

(The question was read.)

A. Yes, the total block hours were very close if you multiply 195, rounding off, times 295, which is about \$111 or \$112 higher than the block hour cost for maintenance used in June of 1963 for aircraft No. 50. You come up with a differ-

Eichner—Cross

ence of approximately \$20,000 out of the \$26,000 difference in aircraft operating expense shown in Table AA.

In Table AA, for November 1961, aircraft No. 030, as I read it, had an aircraft operating expense of \$169,053.

In June 1963, for 190 block hours, aircraft No. 050 had an aircraft operating expense of \$133,159, some \$36,000 less, less than \$36,000 less.

The most of this difference can be accounted [Tr. 10,244] for by the difference of some \$112 per block hour cost in maintenance.

Q. Would you compare the ground and indirect expenses for those two aircraft, please?

A. The ground and indirect expenses for aircraft No. 30 in 1961 were \$109,528 and the ground and indirect expenses for aircraft No. 50 in 1963 were \$95,680.

Q. Can you explain that difference?

A. Well, one difference that occurs without looking at any inputs is the fact that general administrative expense varies. As we have explained—as Mr. Simat explained before, with all other cash operating expenses.

If you have a very large difference in cash operating expense due to the difference in maintenance cost then a difference was occurring in the general and administrative expense as well.

Q. In your opinion, would that be associated with a change in 1963 as you testified the other was associated?

A. I'm sorry. I am afraid I don't understand the question.

Q. I believe you testified that in the case of [Tr. 10,245] the direct operating expense the principal part of the difference was associated with an accounting change in 1963.

This change in indirect expense, does this result from a change in 1963 as well that makes it different from 1961?

Eichner—Cross

A. Well, if your general administrative costs reflect your all other cash operating expenses and TWA's accountants decided that their cash operating expenses had been overstated, and consequently were understated for 1963, then this correction would take place in the general administrative expense accounting method as well.

The Special Master: I think the question is, did that in fact happen?

The Witness: Yes, it did in fact happen from the figures I see before me.

Q. Let us take a comparison that is in the same year then. I would like to refer you to two B-131 aircraft, one in the month of February 1960 and one in the next month of March 1960.

The one in February 1960 has been designated by you as aircraft No. 090, and the one in March as [Tr. 10,246] aircraft No. 130.

The average stage lengths are almost precisely the same, 2,478 in one case and 2,474 in the other.

The load factors are close, 64½ per cent in February, 65.9 per cent in March.

Once again the aircraft in February makes a significant profit, \$31,500 and the aircraft the next month with a slightly higher load factor makes quite a lot less money, only \$6,585.

Can you explain that, please?

Mr. Tenney: While you are looking at those figures, Mr. Eichner, I am going to ask that this paper which sets out the figures that I have been referring to, all taken from your report and its work papers be marked as TWA Exhibit 426 for identification.

Eichner—Cross

(Document headed "Comparison of Selected A/C Numbers from Appendix A," marked TWA Exhibit 426 for identification, as of this date.)

Mr. Hayes: While Mr. Eichner is working may I ask the stenographer to read back the question to me, please?

(The question was read.)

A. Not offhand. Just looking at your selection [Tr. 10,247] of numbers it is apparent that the difference is in the aircraft operating expenses, because the differences in total revenues and in indirect expenses are relatively small.

So I would want to work through the calculation by hand and see just what caused it. And I will be glad to report back to you on this.

Q. Mr. Eichner, if you are going to check back, I think perhaps I should—to make sure that I give you examples that pick up whatever explanations you wish to make about these results that seem a little unusual—I think I ought to suggest that you check also one or two other aircraft which might illustrate other points. I do not know.

Aircraft No. 120 in February of 1963—that is a Convair 880—and 110 in December of 1963, Convair 880 have very similar statistics as far as stage length goes. Again, the higher load factor makes a lot less money.

I don't want to do just cumulative things. There are quite a few like that.

Mr. Perkins: Why don't you give us a list of them all, Mr. Tenney? We will be glad to check any of them for you.

[Tr. 10,248] Q. To take one example of a B-331 and making this one also in the same year, indeed consecutive

Eichner—Cross

months, aircraft No. 030, December 1960 and 020 in November of 1960 have almost precisely identical stage lengths and the higher load factor is a loss operation and the lower load factor is a profit operation.

While you are checking, you might as well check those and perhaps you can report back on it tomorrow—

A. I can report back—

Mr. Perkins: I was just going to ask if the reporter would read back those numbers just so I can be sure we have those right and we don't have to wait for the transcript.

Mr. Tenney: Surely.

(The question was read.)

The Witness: It was a very simple explanation and it should have occurred to me at the time.

I checked the analysis we had made of the TWA on-board reports for aircraft No. 90 in February of 1960, and I find that TWA reported that the 74,356 miles which this plane flew only required 148 and a fraction block hours.

I find that the on-board reports for aircraft [Tr. 10,249] No. 130 showed that for only 71,746 miles flown in March of 1960 this aircraft required 172 block hours.

So there was approximately a difference of 23 block hours for fewer miles flown as reported by TWA in their on-board reports and this is reflected in the direct operating costs.

Q. Can you explain why that should be?

A. No, sir. We did not go behind the data furnished us by TWA.

Eichner—Cross

Q. In the data furnished you by TWA, it discloses, does it not, which direction these aircraft are flying in?

A. Yes, sir.

Q. These were transcontinental flights, were they not?

A. Yes, sir.

Q. Aircraft No. 090 with the shorter block hours, do you happen to know which direction that airplane was flying?

A. That was an eastbound flight.

Q. Which direction was the other aircraft flying in?

A. It is a westbound flight.

[Tr. 10,250] Q. That produces substantial differences in the operating results of those two flights, does it not?

A. Yes, sir.

Q. Is it possible to fly an airplane eastbound and just leave it there and then continue to fly all your flights eastbound?

A. No, sir.

Q. So if you are going to fly a flight eastbound you have to fly it westbound some time, don't you?

A. That's correct. That's why we believed it was necessary to look at the whole pattern of the aircraft days and of the planes rather than just individual flights.

Q. However, in this case you have treated an eastbound operation separately from a westbound operation and deduced differences in operating profit and loss which have resulted in affecting plainly the ranking as to profitability of these aircraft, have you not?

A. We merely reflected what occurred, Mr. Tenney, and that is correct, that it did cost less to fly eastbound than westbound.

Q. But by your arbitrary separation of a total fleet and routing pattern into individual aircraft units, some of which are going only in one direction, [Tr. 10,251] you have

Eichner—Cross

produced a distorted comparison of the units themselves, have you not?

Mr. Perkins: I object to the form of the question. It contains a characterization that is arbitrary.

I suggest that you ask the question without including that adjective.

Mr. Tenney: I think it is a perfectly fair cross-examination.

Mr. Perkins: That is your characterization. There is no testimony here to that effect.

Mr. Tenney: I think it is perfectly proper cross-examination.

The Special Master: We have characterized things much worse than that.

A. Different hours produce different aircraft operating costs.

Q. Is that your best answer, Mr. Eichner?

A. No, sir, it is a historical fact.

Q. You called attention on those two aircraft to one difference and that was a block hour difference.

I notice another difference from your Table GG in that the eastbound flight you have allocated \$90,856 of hull insurance and depreciation to, and on [Tr. 10,252] the westbound flights you have allocated \$97,123 of hull insurance and depreciation too.

Is there anything in your analysis of hull insurance and depreciation that calls for that to be varied in that way between eastbound and westbound flights?

A. Would you read off the numbers please?

Q. \$90,856 in the case of eastbound flight aircraft unit 000, \$97,123 in the case of westbound aircraft unit 130.

A. The explanation which is contained in the writeup of how we did this costing is based on the number of air-

Eichner—Cross

craft days that the planes were in service. February is a 28 day month. March is a 31 day month. The plane assigned to this run which was only used for one transcontinental trip received the full burden of hull insurance and depreciation during the month of March and because it was a very low utilization on this plane—only some four or five hours a day—it consequently had to take the entire burden on that one trip.

Q. Do I understand that answer, Mr. Eichner, correctly? Did you mean to say that in February, it being a shorter month, you charged less insurance and depreciation? [Tr. 10,253] Is that correct?

A. We said that we did it on the basis of aircraft days. There were more days in the month of March. And you will find as you go through our reports that 30 day months are charged 30 times the daily figure, 31 day months are charged 31 times the daily figure and 28 day months are charged 28 times the daily figure.

Q. So you have assumed that the aircraft had an operating day for each day in the month as long as it was available for service in that month, is that correct?

A. The way the depreciation, hull insurance and equipment rental charges were assigned, and as explained in our volume, was that we took the number of aircraft days as reported in the Form 41s, we divided into these fixed charges to get a daily charge which was applied throughout each active aircraft for the number of days that is shown on the routing charts for each month.

If this plane was shown for a 31 day month it got 31 days times that charge. If it was shown for a 30 day month such as April or June, it gets 30 days times that charge. And if it is shown for February it [Tr. 10,253A] gets 28 times that charge.

Eichner—Cross

Mr. Perkins: Except in 1960 which I think was a Leap Year.

The Witness: 29 days.

[Tr. 10,254] Q. It does happen, as I believe TWA Exhibit 426 for identification shows, that this February aircraft had 30 departures and consequently greater usage in that month of February than Aircraft 130 in March had which had only 29 departures.

Doesn't your formula for allocation produce a distortion in that case?

A. As a matter of fact, Mr. Tenney, to do it any other way would produce a distortion.

No, it does not. If we do not do it in this way, then we would end up charging in the month of February—suppose we had divided it on a monthly basis—we would charge appreciably more for each flight, if we made the depreciation charges in the month of February equal to the depreciation charges for the month of March.

Depreciation and hull insurance are not a function of the number of miles that you fly a plane each day or the number of hours that you fly it each day. They are a function of obsolescence and time passing.

And this method is an accurate reflection of those costs as applied to these trips.

The Special Master: What run was this plane on, this 090?

The Witness: It was—090 operated from Los [Tr. 10,255] Angeles to JFK.

The Special Master: How could it have 30 departures in February then?

The Witness: They probably ran an extra section. And it would be counted as a scheduled flight.

Eichner—Cross

Whereas, probably 130 which was flying from JFK to LAX probably had a couple of cancellations due to weather.

Q. TWA does not record its hull insurance and depreciation in the way you just described, does it?

A. Do you mean in its public records?

Q. In any records that you know about.

A. Internally they may very well use it because it is a very accurate way of doing it when you are trying to forecast revenues, expenses or measure the profitability of equipment. They should do it if they do not.

Mr. Perkins: You don't know how they do it?

The Witness: I do not know how they would do it.

* * * * *

[Tr. 10,274] * * * Q. I would like to refer back to an aircraft that we were looking at before, because it illustrates a different point, and that's the pattern that you have identified as Aircraft No. 090 in February of 1960 for the Boeing 131s.

For this purpose I would appreciate it if you would take a look at your routing chart, which is dated effective January 11, 1960.

Can you tell me, Mr. Eichner, what this aircraft number that you have identified as 090 does in February of 1960, that being a period in which this routing chart is effective?

A. The routing chart shows that Flight No. 10 was an airplane which left Los Angeles at 9:00 o'clock in the morning, having turned over Flight 81, which arrived at approximately 11:15 the night before. It went to New York and arrived there at approximately 4:45 p.m., New York time, which would be some four hours scheduled flying time later. And then it sits on the ground from 4:45 p.m.

Eichner—Cross

until the next day, having gone through a maintenance check [Tr. 10,274A] A or check C, and goes out at 3:30 p.m. on Flight 43 the following day.

[Tr. 10,275] Q. That operational pattern is the pattern that you have designated as aircraft unit 090, am I correct?

A. That's correct.

Q. A large part of that operating pattern for that 24 hour period is taken up with their check A or C, is it not?

A. A large part of two planes in the winter of 1960 was taken up with this check A or C, not only with flight 10s airplane taken up with that, but also the flight which operated No. 43 and which appears as aircraft No. 130.

But for simplicity, we can concentrate on the one that you have as 090, and that operating pattern consisting of one transcontinental flight and the rest of the time spent on the ground for maintenance purposes? Is that a summary of the situation of that operating unit?

A. There is no way of telling from the routing chart, Mr. Tenney, whether this particular plane that evening spent its time on the ground for this maintenance check. The flight the next day is designated check A or C and you could make that assumption if you wished.

As you will see, flights 10 arriving at 4:45 [Tr. 10,276] and flight 43 departing at 3:30 a.m. means that TWA at this period of time set aside a plane almost 24 hours a day for check A or check C operation at JFK..

Q. That was 3:30 p.m.?

A. 3:30 p.m., yes.

Later on, they did have a maintenance spare set aside full time at some stations. This is practically a full time maintenance spare which they have designated as two active aircraft.

Eichner—Cross

Q. The way this routing chart works, each of the other operating units in turn would go through this pattern, would it not? Or perhaps I should say each number, each actual physical aircraft would go through this pattern so that some time at some periodical interval it would find itself flying this pattern and having this period of time for check A or C?

A. That's correct.

Q. The expenses and lack of revenue associated with a plane being on the ground for the better part of a day for maintenance purposes is a necessary concomitant of operating the entire flight, is it not?

A. The minimum amount of time required to pull these checks is a necessary concomitant but frequently we find that low utilizations which are shown [Tr. 10,277] as maintenance checks and which may represent maintenance work or it may just represent a lack of desire to operate the plane in a very high utilization.

You will notice up at the top of this page that utilization on this fleet at a time when TWA claimed they were short of aircraft, jet aircraft, at a time when the jet aircraft cycle was very new, was only 8 hours and 56 minutes.

TWA has achieved much higher utilizations on these fleets since then. They have tightened up maintenance procedures because in later years they found that they could use planes profitably.

So this may or may not represent 23 hours of maintenance time required for this plane.

Q. Isn't it the customary experience of TWA and of other airlines that during the early months of operations of a completely new type of aircraft, it is impractical to obtain as high utilizations as can be obtained later?

A. Yes.

Eichner—Cross

Q. Isn't that what happened with American as well?

A. Yes, the utilizations did—

Q. Isn't that what happened with BOAC as well?

[Tr. 10,278] A. I beg your pardon?

Q. BOAC.

A. I don't know BOAC's utilization patterns.

Q. I believe that it is in the record amply from Mr. Simat's testimony last year that this pattern does exist.

You have called attention to the fact that there is an 8 hour and 56 minutes average utilization.

You have also testified that there is at least an average of one aircraft on the ground for maintenance purposes under the routing chart.

If you took out that maintenance unit—that overhaul unit—excuse me—I am sorry—I misspoke.

The aircraft operating units in the upper left hand corner show a total of 15 operating units of which is shown as an overhaul unit.

Do you know whether that overhaul unit is included in the computation of utilization?

A. I assume that the utilization is the overall utilization because it gives all the numbers up there and we did divide 856 into 125 and we come up with 15 aircraft. So it is the total utilization on the fleet.

Q. If you took out this unit that is in overhaul, [Tr. 10,279] your utilization would be over ten hours a day, would it not?

A. Your active utilization which is a different figure, Mr. Tenney.

Q. Going back to the flight that we were examining here, you testified a few minutes ago that keeping an aircraft on the ground for the better part of a day for maintenance purposes was a necessary concomitant of operating a fleet.

Eichner—Cross

You then went on to give a further explanation but I just want to recall that general testimony to you.

In this instance, that particular operating unit for your analysis purposes in Table GG and Appendix A bears the entire burden of this absence of revenue and existence of expense which is associated with the not immediately productive maintenance activity, is that not correct?

The Witness: Would you read that question back to me?

(The question was read.)

Q. Do you understand my question?

A. No, sir.

Q. I will try to restate it.

You have testified, I believe, that—

[Tr. 10,280] The Special Master: That part is clear. You have in mind your prior testimony on that.

The Witness: Yes.

The Special Master: You can just ask the question, I think.

Q. The aircraft operating unit that under this routing chart has as part of its pattern a maintenance layover has less opportunity to earn revenue and relatively a greater expense burden than operating units that do not incorporate in their patterns these maintenance layovers, is that generally correct?

A. That is generally correct.

Q. In your analysis, however, there is no attempt to allocate to other aircraft than this operating unit No. 090 this burden, although this burden, because of the rotating pattern of flying this jet is, in fact, applicable to each of the aircraft in turn, is that not correct?

Eichner—Cross

A. The burden which you say would be allocated is solely in the fixed cost per day.

There is no special burden in the aircraft operating expenses which are only on the block hours of flight 10 and flight 43 that it turned on.

So that it would make no difference there [Tr. 10,281] whether that were one plane coming in as flight 10 and going out as flight 43. It wouldn't make no difference in the aircraft operating expense column. Or if they were divided up with two planes. It would make no difference in the indirect expense column because depreciation, hull insurance and flight equipment rental does not enter into that computation.

So the only difference that we are talking about is in the amount of depreciation expense charged to this plane.

Now, there is an alternate way of charging this depreciation expense. Or there is a couple of alternate ways.

One way is that we could have charged the depreciation, hull insurance and the other fixed daily charges on an aircraft mile basis. Or we have charged it on an overall block hour basis.

This is a method commonly used before a fleet is routed out when you are trying to estimate whether an additional trip or an additional plane would be a profitable one.

We have tried both methods in addition to the one we selected, and we have found that it made no appreciable difference in the overall results because [Tr. 10,282] TWA still showed a large number of jets losing money even when we did something as extreme as charging these fixed charges on an aircraft mile.

Now the reason for this is if we reduced these fixed charges per day on planes which are engaged in check A or check C, we have to add the fixed charges to some of

Eichner—Redirect

the other planes in the fleet. And the planes which are not engaged in check A or check C would have to bear that burden of expense.

Q. But it does change the relationship between these operating patterns, does it not?

A. It changes the relationship between the operating patterns to a small degree but it is not enough change to keep from having planes which are losing money.

* * * * *

[Tr. 10,560] * * * By Mr. Perkins:

Q. Beginning at page 10,284, you were questioned rather extensively, Mr. Eichner, about a footnote in your report which referred to an unassigned 880 aircraft [Tr. 10,561] in the routing chart for, I think, October 17, 1963. Is that the only instance in the 880 routing charts when an aircraft was listed as unassigned?

Mr. Tenney: I object. It's outside the scope of the cross-examination.

Mr. Perkins: I don't see that it is. You evidently attached great importance to this fact in view of the very extensive cross-examination you gave to it.

I think the record should show that this is not the only occasion on which aircraft were so listed in the routing charts.

The Special Master: I will allow it.

A. No, there was another 880 on the routing chart effective as of March 29th, which was shown as unassigned, and this was in a month when there were two additional aircrafts and spares and one for air training.

Q. Did you state the year?

A. 1963.

Eichner—Redirect

Q. Were there some occasions with other fleets when aircraft were listed as unassigned?

A. Yes. We found that on the B-131 fleet routing charts for September 23, 1962 and for October 1, 1962, there was one unassigned aircraft shown on each routing [Tr. 10,562] chart and for the 131-B fleet for September 5, 1962, we also found an unassigned aircraft, which remained unassigned through September 23, 1962.

Q. At page 10,319 and following, you were questioned about the effect on 880 operating profits of Flights 107 and 108, which were added to the routing chart effective November 17th and the questions related to the month of December 1963.

Would you state the segments on which those added flights were operating?

A. The added mileage in the added segments were between New York and Baltimore, St. Louis and Kansas City, in both directions.

The balance of the operation of Flight 108, as the record shows, was a replacement of Flight 136 from San Francisco to Los Angeles to Kansas City.

Q. At the time those flights were added, was there existing jet service with 880s over those segments?

A. There was existing jet service with 880s over the Kansas City to St. Louis portion of the trips, in both directions.

There was jet service with the 131-Bs between the St. Louis and Baltimore, and over the Baltimore to New York segment. [Tr. 10,563]

So there as jet service over the entire—over all three new segments, some of which was by 880 and some of which was by the other fleet.

Eichner—Redirect

Q. Can you tell us what the operating profits realized by TWA were on those segments before and after the addition of Flights 107 and 108, taking the complete months of October as the before period and December as the after period?

A. Yes. The profit for the month before the flight was added over those segments netted out at \$30,700, as shown in Table GG. And after the profit netted out as \$14,800, a drop of over 50 per cent. We are rounding this out in dollars.

Q. At page 10,347, it was suggested to you by Mr. Tenney that one reason which might impel TWA to operate jet flights at a loss over certain segments was that it was certificated for those segments and might be in danger of losing its franchise if it didn't conduct such operations.

Is there any requirement, Mr. Eichner, under the certification, that any service be provided with jets rather than pistons?

A. None that I know of.

**Testimony of Damage Hearing of
Van Court M. Hare, Jr.**

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[Tr. 10,601] * * * *Direct examination by Mr. Tenney:*

Q. Mr. Hare, will you outline briefly your educational and work background, with particular reference to your qualifications in the field of statistics?

A. Yes. I attended the Massachusetts Institute of Technology and received a Bachelor of Science in Electrical Engineering in 1950, after working for two years on the statistics of electronic applications and radiation counters.

I attended Columbia University and obtained a Master of Arts Degree in the field of sociology, specializing in social [Tr. 10,602] statistics.

I then entered the Engineering School of Columbia University and in 1961 I received the Ph.D. in Operations Research. The title of my thesis was "Queues With State Dependent Service Times," a statistical topic.

During the intervening years between 1953 and 1961, I was employed first as a research assistant and, later, an instructor in operations research at the Case Institute of Technology.

As a result of that association, I developed a number of consulting assignments which I have continued and widened since that time, again in the field of computer applications, for a number of the country's largest corporations.

I am presently—or in 1962, rather, I was invited to join the staff of Columbia University, as an assistant professor.

In 1967, I was promoted to associate professor with tenure.

Between those two dates I was a visiting professor, a visiting assistant professor at the Case Institute of Technology and this fall I have been invited to be visiting pro-

Hare—Direct

fessor of operations research at the University of Massachusetts.

[Tr. 10,603] Have you published any material in this field?

A. Yes, I have published both articles and contributed to a number of technical books. Beginning in 1956, two of the books to which I contributed portions, chapters to the books, were called "Introduction to Operations Research" and "Progress in Operations Research" published by John Wiley.

My latest full length book is entitled "Systems Analysis: A Diagnostic Approach," and it was published in the spring of 1957 by Harcourt, Brace & World. And for the five years preceding last fall, I was also the editor of the Bulletin of the Operations Research Society of America. I resigned that position to become consulting editor to Harcourt, Brace & World in the field of information technology. I still have that contract.

Q. Prof. Hare, are you familiar with the testimony of Mr. Simat in connection with the second volume, which is Vol. B of his supplemental report, which has been marked Defendants' Exhibit 359B?

A. Yes, I am, and in particular with the traffic regression equation and the later work entitled "The Alternate Estimate."

I believe I have also either heard the oral testimony of Mr. Simat or have read the transcripts dealing [Tr. 10,604] with this subject.

Q. Have you specifically reviewed in this connection the transcript of the hearing of last Friday, March 22nd?

A. I have.

Q. Prof. Hare, I show you a series of computer print-outs of certain regressions which have been marked as TWA

Hare—Direct

Exhibits 436A, B and C (handing to witness) for identification, and I ask if you are familiar with these documents.

A. Yes, I am familiar with them. At Mr. Tenney's direction I personally had caused these regressions to be generated, wrote the program for the generation of the random numbers involved.

The purpose of this example or exercise was to demonstrate a mathematical or an arithmetical fact as follows:

If you generate a series of random numbers and rank them in order and then fit a regression line to those numbers, as a first step and at the second step cut the range of the variability of the Y variable in half and repeat the process, the index of determination R^2 and the corresponding correlation coefficient will be unchanged.

[Tr. 10,605] The reason for that fact is that the formula for computing R^2 contains in both the numerator and the denominator values of Y, both of which have been adjusted by the same constant.

Thus, when you cancel out that constant both above and below the line, you are left with the original equation and this fact, of course, would hold for any constant that was used in multiplying the original values of Y.

Q. Can you explain what changes would occur in the various mathematical relationships involved under those circumstances?

A. Yes. I believe that we could do this most clearly by reference to a graph which I have prepared for this purpose.

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By Mr. Tenney:

Q. I show you a graph marked TWA 440 for identification, Prof. Hare, and ask if this is the graph

[Tr. 10,606]

Hare—Direct

that you prepared and that you just now referred to (handing to witness).

A. Yes, it is.

Q. Will you proceed with your explanation, please?

A. In order to clarify the point, it is easier first to assume that we have not dealt with random numbers, but, rather, with numbers which are uniformly declining over the range.

The range shown here for the value of Y is between zero and 1 million. The range shown for X is shown between zero and 24, and if we divide the range for X into 24 equal intervals, we can speak of a rank order going from the largest value of Y to the smallest, that value of Y being taken at the midpoint of each of the 24 intervals.

To illustrate what the values of Y would be, we have not plotted the 24 points, but, rather, for artistic clarity, have drawn the simple line showing how those numbers would decline. They would decline from a value at the first rank of 1 million and would reach a value of zero at the 24th rank under this situation.

It turns out here that the slope of Line A is easily determined as 1 million divided by 24 or approximately minus 41,670 and, of course, the numbers would drop off as you moved to the right at each interval by that amount.

The point that we are attempting to illustrate first is shown in Line B, in which the original range of the numbers instead of going from zero to 1 million, goes from zero to 500,000, and they note that the intercept is reduced by one-half and that the slope of the line also is reduced by one-half.

In this illustration, of course, again, the correlation coefficient both in Line A and Line B would be 1 and it is unchanged by this arithmetic transformation.

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In the same way, going back to the original range of 1 million, if I decided not to have 24 observations which had been ranked, but, rather, 12, so that we had picked 12 numbers, such as that at the 12th rank, we would be down to zero and at the first rank we would be up in the million. We note that the effect there is not to change the intercept, but, rather, to increase the slope of the line to double it over the value in Line A.

I believe if we referred to Appendix D of Mr. Simat's report, we will see an example of this same type in which the reduction in the number of observations which have been ranked increases the slope of the corresponding line. I refer to page 3 of Appendix D, which refers to 707-131 aircraft. And for the first three months of 1959 there are a small number of data points, 4, 6 and 7, respectively, and we note there a slope factor ranging between a minus 111,000 and a minus 44,000; whereas, if we now progress to a case where we have a higher number of observations, for example, January 1961, where there were 15 observations, the slope drops because of the larger range of the X values to minus 11,000.

This is just an arithmetic fact. That is a consequence of the ranking procedure. That was the purpose of this chart, to illustrate that arithmetic relationship.

Q. Could you relate the explanation that you have just given to TWA Exhibits 436A, B and C, which you testified that you prepared?

A. Yes. In that exhibit, you will discover that the same relationships hold for the random number series, at least approximately. The reason for using the same set of random numbers in each of the exhibits lettered A, B and C was so that we could demonstrate the arithmetic property I have just mentioned rather than add in the additional com-

Hare—Direct

plication of generating successive samples of different random numbers.

[Tr. 10,609] We will note, for example, in that exhibit, that we have an intercept value of about 1 million and that we have a B-value or slope value of minus 38,140.

You will recall theoretically the number we would get from Exhibit 440, Line A, would have been about minus 41,000—a difference in both of these cases is due to the sample variation that occurs when you select a limited number of random numbers.

Q. 436B: could you explain what relationship is shown by 436B in terms of the principal factors we have under discussion?

A. Yes. 436A and B correspond respectively to Lines A and B in TWA Exhibit 440. Line C is not so duplicated in the random number set. I might add, however, that Exhibit 440C can also easily be—pardon me.

Q. 436C.

A. 436C could also be illustrated by the graph. The arithmetic argument is that if I were to subtract a constant value from each of the observations used, it would have the effect simply of dropping the line down parallel to itself. The intercept would be reduced by the constant of the subtraction. The slope would in no way change and neither would the correlation coefficient, for the same arithmetic reason that we mentioned before, and that is [Tr. 10,610] illustrated again in the random regressions shown in TWA 436C.

Q. Last Friday, March 22nd, at transcript 10,435, Mr. Simat suggested the possibility that the random number series which had been shown to him might constitute a special selection out of a larger group of random number series which had been generated and that the remainder might not show the same patterns.

Hare—Direct

Did you perform any other random number analyses in connection with the particular study contained in TWA Exhibits 436A, B and C?

A. No. These are the only regressions that were run for this particular exhibit. There was no selection whatsoever.

Q. In his comment at that point, I think that the context indicates that Mr. Simat was also referring to certain earlier random number series which I had shown him on a preceding occasion, which have been marked TWA Exhibit 435.

I show you a copy of TWA Exhibit 435 and I ask you if you are familiar with that document (handing to witness).

A. Yes, I am. I was also, at your direction, responsible for generating these exhibits, generating [Tr. 10,611] both the random numbers and running the regression analysis.

Q. TWA Exhibit 435 contains and performs certain operations on a number of series of random numbers. In connection with that study, did you generate any other random number series not included therein?

A. Yes. We generated two sets of random numbers in addition to those presented here.

Q. Did they show any different pattern?

A. They showed the same identical pattern of high coefficient correlation that this set does. They were, however, in the first instance a set of fifty 3-digit random numbers and in the second instance a set of twenty 6-digit random numbers.

The reason that those were not used was that under the direction of Mr. Tenney, I believed that we should generate figures more nearly like those used by Mr. Simat. We restricted our further study to 6-digit random numbers in sample sizes of four, six, fifteen and twenty-four. Those regressions are available for inspection, if desired.

Hare—Direct

Q. Do you recall in approximate terms the correlation coefficient that you obtained in those regressions?

A. As I recall, they were on the order of .97 or [Tr. 10,612] .98.

Q. At transcript 10,436 of last Friday, immediately following the passage that I have just now referred to, Mr. Simat stated that in his opinion if instead of taking the same group of random numbers and arithmetically constricting its range, if I may call it that, by multiplying by .5, as you have done in TWA Exhibits 436A, B and C, if instead different groups of random numbers were generated from a larger range of figures and from a smaller range of figures, then on the average the results with respect to random numbers produced from the smaller range would show lower correlations.

Have you performed since that occasion an experiment to see if this is so?

A. Yes. The Saturday morning following Mr. Simat's testimony, at your direction, I generated six additional regressions to examine the results doing the calculation as suggested.

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Q. I show you a copy of TWA Exhibit 441 for identification and ask you, Prof. Hare, if this is the study that you made on Saturday that you have just now referred to.

A. Yes, it is.

Q. Will you explain what this study consists of?

A. This study is designed to illustrate the same point that we had illustrated before. The first three runs used random numbers which ranged between zero and 1 million, with 24 observations, three replications of 24.

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In the bottom three, we have constrained the range of the random numbers not by using the same random numbers as in TWA 436A, B and C, but, rather, causing different random numbers in the constrained range to be produced by the computer.

The same process performed before is repeated here and the summary results shown. We note that the intercepts and the slope of the fitted line is reduced by [Tr. 10,614] one-half.

The standard error is reduced by one-half, which is the standard deviation of Y about the average value of Y. Yet the correlation coefficients or the coefficient of determination, as shown here, remains unchanged.

The slight differences that occur between the two are due to the sample variation and one would expect this when generating different sets of lines from a random number table.

I might point out, however, that it is not difficult to prove, statistically, that the exercise carried out here is mathematically equivalent to the simple arithmetic case we have illustrated in TWA 440.

Very simply, if you generated random numbers across the entire spectrum between zero and 1 million and divided that range into 24 intervals, the expected value that you would get is the long-range average. If you kept making samples, the expected value or long-range average that you would get at any particular interval would be at the midpoint of that interval, and since that is the case, it reduces to the arithmetic situation that we originally described for TWA 440.

Q. Were these all of the random number series you generated in connection with this study?

[Tr. 10,615] A. Yes. Only six were generated and we have them here.

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Q. Have you at any time in connection with this case performed any other regressions upon random number series?

A. No. Every regression that I have run has been mentioned.

Mr. Tenny: I offer in evidence TWA Exhibits 436, 440 and 441. In the case of 436, of course, this is a re-offer. I offered it previously, last Friday.

Mr. Perkins: I have no objection. I, of course, will have a few questions to address to the witness about them.

The Special Master: Received.

(TWA Exhibits 436A, B and C, 440 and 441 received in evidence as of this date.)

Mr. Tenny: I also offer TWA Exhibit 435, which apparently I failed to offer at the time.

Mr. Perkins: No objection.

The Special Master: Received.

(TWA Exhibit 435 received in evidence as of this date.)

[Tr. 10,616] By Mr. Tenney:

Q. On Friday, at transcript 10,478, Mr. Simat used the term "significant," and he has used that term and another term "statistically significant." Does the word "significant" have a special meaning when used in connection with statistical analyses of the type that we have been dealing with here?

A. Yes. The word "statistically significant" has a special meaning. It is possible to make statistical significance tests. With reference to regression analysis, one would test the coefficient slopes, intercepts and perhaps the correlation

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coefficient to see whether they differ materially from zero, especially could they have been achieved as a result of chance due to sampling.

I hasten to add that the standard tests of significance have some fairly strong assumptions in the field of regression analysis. In particular, the residuals that one obtains from the analysis, that is the difference between the actual values and the observed values, must be independent. They must have a normal, so-called normal distribution, which means they have a symmetry above and below the line and a number of other requirements of that sort.

If those requirements are met, it is possible to [Tr. 10,617] make a probability statement about the values of the coefficients in the equation as they differ from zero.

If the probability is very small of achieving such a result, we say that the coefficients are significant and, therefore, we would have to reject the hypothesis of no relationship.

Q. When you say that a relationship is statistically significant, what does that imply as to the utility of the equation?

A. As it occurs in most measurement applications, in order to answer such a question, one must state the purpose for which the measurement was undertaken.

There are basically two purposes for which regression analysis is carried out. The first one is of an exploratory nature, experimental nature, to test the theory that certain of the variables have an association with each other.

In that application, if the assumptions required for making statistical tests have been passed, then we can apply the tests and come up with a statement regarding the significance of the association which has been found.

In such a situation, the finding of a significance tells the investigator that he has some support for his theory, that there is perhaps something worth looking into [Tr. 10,618]

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further, and the second application of regression is essentially an extension of the first, that is, for estimation and prediction.

In the case of estimating and predicting, the questions that we ask are generally somewhat different from the questions we would ask in the first instance. Namely, we ask ourselves, is the regression equation, when used for prediction, much better than essentially doing nothing at all? which would amount to taking the average value of Y as the estimate without regard to the values of the independent variables.

There are various ways of assessing or answering that second question. Many have been repeated here on several occasions. I thought it might be illuminating to try to summarize those by saying that there is a dependent relationship between the standard error of the estimate and the correlation coefficient, again an arithmetic relationship.

The standard error of the estimate is a measure in a sense of the precision with which one can estimate. It gives an absolute sort of number that one may compare with the value estimated.

In order to illustrate how a change in the level of precision changes with the change in the correlation [Tr. 10,619] coefficient, we have prepared an exhibit which shows those values. I am indebted to Prof. A. J. Duncan of Johns Hopkins University, who inspired this table by suggesting it in his handbook, "Quality Control and Industrial Statistics."

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[Tr. 10,620] Q. Is TWA Exhibit 442 for identification the exhibit that you were just now referring to?

A. Yes, it is.

Q. Will you explain it, please?

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A. This table is a modification of the table printed in the Duncan book on page 663. Professor Duncan stops his tabulation at a correlation coefficient of .6 and has a number of intervals between .6 and one.

For the sake of simplicity, I have tabulated the table for correlation coefficients between zero and 1 and at intervals of 1/10th. The extreme column to the right, number 5, represents the fractional reduction in the standard error one achieves by using the regression equation as opposed to doing nothing at all, in which case the figure corresponding to the standard error would simply be the standard deviation of the Y values. We note, for example, that if a correlation coefficient is one, we, of course, have removed all or reduced the precision or the imprecision by one, whereas if the correlation coefficient is zero, we have done nothing or accomplished nothing by using the regression equation.

I note in this table that when R equals .4, that the amount of variability which has been explained by an equation having that value of R, is about 16 per cent.

[Tr. 10,621] The unexplained variability is about 84 per cent. The coefficient of alienation is .913. The last column which turns out to be one minus the coefficient of alienation, tells us that we have actually improved things by using such a regression equation only about 9 per cent over doing nothing at all. Other values of R, of course, can be related in the same manner.

I would continue with that point to say that I think practically most investigators who had in the back of their mind making estimates particularly where the estimates involved substantial amounts of money, would not be overjoyed at seeing a result that only improved their estimates and precision in terms of 9 per cent and the usual consequence would be that a search would be continued for more varia-

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bles that would, in an explanatory way, reduce the variability and thereby increase the precision of the equation.

Mr. Tenney: I offer TWA 442 in evidence.

Mr. Perkins: No objection.

(TWA Exhibit 442 marked for identification, received in evidence, as of this date.)

Mr. Tenney: You may examine, Mr. Perkins.

Cross examination by Mr. Perkins:

[Tr. 10,622] Q. Mr. Hare, you stated that your special field of expertise, in addition to statistics, was operations research and systems analyses and without burdening the record at any great length, I wonder if you could state in a sentence or two what sort of things you do in that field.

A. These are fields which have grown up since World War II in which analyses of a mathematical and statistical nature are made of operations in order to more clearly define them and improve them by understanding how they work. Within that field one would find individuals working in the problems of scheduling factories, for example, of inventory production control, of the allocation of economic resources, using mathematics.

Q. What kind of work have you done?

A. I have largely within that realm engaged in fields such as inventory and production control forecasting for that purpose, including a fair amount of market statistical work, collecting information for these other fields.

Q. Have you had any experience in the airline industry or consulting with them apart from what you have done in this particular case?

A. Within the restricted framework that I have [Tr. 10,623] just mentioned, I am not certainly an expert in the

Hare—Cross

operation or the scheduling of an airline itself. I have, on a number of occasions, consulted in the area of inventory control statistical applications and so on, with TWA and with Eastern Airlines.

Q. But not in the area of scheduling aircraft, traffic estimates or anything like that?

A. I am not an expert at all in that area.

Q. I note that—well, it's at the top of the fourth page, which seems to be marked—excuse me, at the top of the third page of TWA Exhibit 441, it states, "These are the random numbers generated to simulate observations," and I wonder if you could explain what kind of observations were being simulated?

A. This exercise or experiment was conceived as a sampling experiment in which each of the sampled random numbers taken from a population ranging between zero and one million, could be considered an experimental observation of the character of that population. So that we have collected at random 24 numbers which in the sampling sense could be called observations. They were then arranged in order and a standard regression program was used to fit a line to.

Q. That doesn't imply that you were attempting [Tr. 10,624] here to simulate observations, for example, on the profitability of aircraft?

A. There is, of course, no relationship between this specific set of numbers and any dollar value. The pattern which emerges, however—

Q. I am not asking about the pattern. I was just wondering about the simulation of the observations.

A. These are not dollar values and the word "observation" has to do purely with the random number generated.

Q. As I understand it, if this series of random numbers—I am going to refer here for simplicity to TWA 441, your

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last exhibit, but I think the same questions and answers would apply to all of the other exhibits. Taking your first sample, which is drawn—there are 24 of these observations, drawn randomly from numbers ranging from 1 to 1 million, if those are truly selected in a random number, would you say that there was an equal chance to any number in that range to be selected by your program?

A. That is a definition of the random number. In the range of integers between zero and 999,999, each of those has a probability of selection of one in a million.

Q. Would it then be true, at least on the average, [Tr. 10,625] if you took a number of these samples, about 50 per cent of the numbers in any sample would be in the range from one to 500,000 and the other 50 per cent would average out in the range between 500,000 and 1 and one million?

A. Yes, that is true. However, because of the 24 sample observations, there can be, of course, some variation from that theoretical value, from sample to sample, and it's not difficult to calculate for a sample of 24 what that range of variation, let's say around 50 per cent, is. It's simple.

Q. But if you took enough samples it would tend to approach 50 per cent?

A. Yes.

Q. And likewise, if you divided your million into ten parts of 100,000 each, then on the average, about ten per cent of the numbers would show up in each 100,000 range, is that correct?

A. That's correct, and of course the same thing that I just mentioned with regard to the samplings variation holds here too, except the variation would be somewhat greater because you are grouping fewer things together.

Q. Likewise, if you divided your numbers into [Tr. 10,626] six equal parts, you would expect to find roughly 16⅔ per cent of the numbers with each of those six parts?

A. Roughly.

Hare—Cross

Q. I have verified this theory against your first three samples and if my count is correct, I found that in the first one there were—well, might I say, if you have a sample of 24 observations, one-sixth of them would be, of course, four observations. So that on the average you will find four observations in the top six, the numbers above, roughly, 833,000 and you would likewise on the average find another four in the bottom range, from one to, say, about 166,000?

A. That is true. Again, there would be a substantial variation because of the small numbers that will end up in each of the categories you have mentioned.

A test can easily be made of this and if you apply that test, which is called the Chi^2 test, you will discover that the variation that you have noticed here is in no way—it is a property of random number generation.

Q. As I was stating when I interrupted myself, I made a count of the numbers appearing in the top six and the bottom six of the first three samples and if my count is correct, I have had six in the first and ten in [Tr. 10,627] the second and seven in the third, which makes 23 and dividing by three gives an average of 7⅔%, which is pretty close to the number 8, which you would get if you presumably had enough samples.

A. Yes, that sounds right.

Q. Is it possible, with a computer or otherwise, to randomly select, say, 24 numbers from a million numbers, which would fall within the normal distribution pattern?

A. Yes, it is, of course, by adjusting each—this is a number in which each observation has equal probability. One may weight that probability by a multiplier and thereby generate any distribution that you would like to reproduce. All computers, however, start out with the equal probability random number.

Hare—Cross

Q. If you did generate random numbers with the normal distribution, would you expect to find as many as 16 $\frac{2}{3}$ per cent in the upper sixth of the numbers or the lower sixth of the numbers?

A. No, you would not and that is the definition of the normal distribution. Most of the numbers would be clustered about the average of that distribution, whatever you chose to make it.

Q. What percentage would be approximately—would [Tr. 10,628] you know what the percentage would be in the upper sixth or in the lower sixth?

A. A smaller percentage—I was attempting to think of the range.

Q. Two per cent?

A. Something between two and five per cent. I might add, Mr. Perkins, that if you did generate the normal distribution numbers and rank them, then you certainly would not end up having a straight line result because of the bunching that would occur towards the center of the range. It would be a distinctly non-linear result. It happens to be a mathematical consequence of ranking random numbers if they are approximately equally spaced, so that when you rank them they go downhill in equal increments, then you end up with a straight line. This was precisely the pattern that Mr. Simat referred to in his alternate estimate. The similarity between these two patterns is all I want to point out.

Q. If you make the assumption that profits of individual aircraft or of aircraft operating patterns, were clustered around some middle or average point typical of a normal distribution and you then ranked those different profit numbers, as Mr. Simat has done, would you obtain the type of

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line that you have obtained in [Tr. 10,629] your regressions of random numbers?

A. No, you would not, Mr. Perkins. You would get a distinctly non-linear result and you couldn't fit a straight line to it. It would be a different case entirely. If my memory is correct, Mr. Simat did make a test and discovered that his data did not follow that particular distribution but rather another one.

Q. You ranked in each case, referring specifically to 441, where each sample consists of 24 observations, you have ranked them and obtained a regression with a high coefficient of correlation.

If your program for any of these samples were to generate a 25th number, would your regression tell you anything about the size of the 25th number? In other words, you couldn't fit it into that equation, could you?

A. You would have to recompute the entire thing, if you added another observation. I have no way of telling, from looking at the random numbers, of course, what the next random number would be that would be generated, so I really can't answer your question.

Q. I would like to give you just a couple, I think, simple hypothetical examples, where the numbers are presumably not random that deal with ordering.

[Tr. 10,630] Your first example: Assume that you have a class in one of your courses of 25 students and you give them a test and on the day of the test 24 of them show up and take the examination and you grade them, say, somewhere, from 90 to 60, if you gave them a numerical grading system, it would then be possible, would it not, to take the highest grade and assign a rank number of one to that and the second highest grade and assign a number of two to that and so on down through 24, would it not?

A. Yes, it would.

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Q. You could then run a regression analyses on that relating the grade on the rank number? That would be a conceivable operation, would it not?

A. It's conceivable but I think it would not be too meaningful because in the example you picked you wouldn't get an appropriate spread between all the pupils. I don't know who has ever found a class that had the appropriate distribution so that a straight line would make sense.

Q. If you couldn't fit a straight line you could fit a curve?

A. Yes.

Q. And you might have a regression and it might have a fairly high coefficient of correlation?

[Tr. 10,631] A. Yes.

Q. And now your 25th student takes a makeup examination of equal difficulty and you grade him, would your regression tell you anything about what his ranking would be?

A. Well, no, it would not. We would have to, of course, in order to determine the individual's rank, we would have to place him in the sequential order of all of the 24 previous students. Therefore, the specific series might be changed but in terms of that single individual's influence on the fit of the curve, I can't answer specifically without knowing the grade that the man achieved.

Q. But if you had a descending slope and No. 24 of your students had a grade of 60, you couldn't fit him into that and predict that your 25th would have a grade of 58 or a lower grade, could you?

A. No, each time you added a new observation and in this case you would have to rerank and redo the regression.

Q. I would like to give you just one more hypothetical example. I will write these numbers down. I think we all know that when a company advertises, its purpose is to in-

Hare—Cross

crease sales and hopefully, profits. [Tr. 10,632] I am not calling on any expertise but isn't that a matter of general knowledge?

A. I think that's the general theory.

Q. Let's consider a company that advertises and an analysis has been made of the relationship of the amount that it invests in advertising to the added profit that it makes and assume it's been determined that an investment of \$1 million would add \$500,000 to profits and an investment of \$2 million would add \$800,000 to profits and an investment of \$3 million would add \$900,000 to profits, while an investment of \$4 million would add, again, only \$800,000 to profits. One way of analyzing this, and I am not asking you to agree that it would be a good or appropriate way, but one way would be to look at what each additional million dollars did to profits and you will find the first million dollars added \$500,000 and the second million added \$300,000 more than that and the third million added \$100,000 more than that and the fourth million made a negative contribution of \$100,000. You could rank those, could you not. One million is given a rank of one against 500,000. The second, 300,000. 100,000 is ranked as three and minus \$100,000 is ranked as four and you could perform a regression—of course I picked very simple numbers—but [Tr. 10,633] even if the numbers were not rounded numbers and were more complicated, you could still perform a regression on those numbers, could you not?

Mr. Tenney: Mr. Brownell, up to this point I thought I discerned some connection between the questions including the hypothetical questions that Mr. Perkins was addressing to the witness and the witness' direct testimony but at this point I do not see such a connection and I object to the question as outside the scope of the direct.

Hare—Cross

The Special Master: We will allow it through for a little while.

Q. You could perform a regression, could you not?

A. I am not sure what you are attempting to measure by the regression. The relationship between—

Q. I am asking whether you could—

The Special Master: Expenditures and profits.

Q. The \$500,000 you rank as one and the \$300,000 you rank as two and the \$100,000 you rank as three and the minus \$100,000 you rank as four. So that you have a rank order of those numbers and a series of numbers and you could relate them by means of a regression to the numbers, could you not?

[Tr. 10,634] A. One could certainly fit a curve to that particular example. I would have to make an observation from a practical point of view, outside of the hypothetical question. I believe if someone came to me and said that he could assure me that if I spent \$1 million I would achieve additional sales of exactly \$500,000, I would be very suspicious.

Q. An additional profit?

A. I would be even more suspicious of that because I don't know of anyone who could easily collect data to define such a relationship.

The Special Master: This is posited.

Mr. Perkins: I can assure you that there are many advertising agencies that spend millions of dollars on just this kind of analysis.

The Special Master: Of the client's money.

A. Yes, looking at the numbers, a straight line would now result because we do have equal increments between the values given to me.

Hare—Cross

Q. Having done that and assuming, as I posited, that this was a reasonable type of an analysis that has been made, based on the judgment of those making it, as a reasonable analysis, wouldn't then your curve give [Tr. 10,635] you some kind of tool for estimating what rank number five would be?

A. Again, the result of such an estimate would depend, in my mind, not on the mechanics of fitting the line to the data but rather to the amount of data that you had and also to the accuracy or the variation inherent in the data points themselves. Thus, I could fit a line in one case and have a very good fit and in the case of data points which were widely scattered and you have given me a situation which I believe has only four points and requires the fitting of a curve—

Q. I state this is merely by way of illustration and you can imagine for the purpose that we have 24 observations.

A. In that case you would then have to look at the result that would occur at each of the observations. I would like to have for example, more than one observation result in your middle column, the profit column, for each of the experimental manipulations in the experimental budget. To argue from one point is certainly not a statistically sound practice, in my viewpoint.

Q. I agree, you need lots of observations and you want to be sure the figures were accurate and all, but if you assume that and having a regression of this kind, [Tr. 10,636] wouldn't it be reasonable to conclude from it that if there were 24 observations, that if you took the 25th, if you wanted to know what the effect of the 25th million was or whatever the unit is, it would not be somewhere up in the middle or near the top?

A. The answer to that question, of course, how far it would be, up or down, would depend on many factors. I

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think, again, the problem here is not one of a mechanical calculation but one of the data. For example, let's suppose that I did in fact spend the next million dollars in the advertising budget and by some fluke of circumstance in the area of my products sale, let's say I am selling beer, the Army opens up fortuitously in the area a new Army camp. It may well be that the next data point that you bring to me as a result of an additional million dollars to the advertising budget, will in fact, show a tremendous increase as a result of that particular observation. So it would depend, in my mind, I couldn't tell you on a single point. I would need to have a replication of those points and a number of data points.

Q. In a sample of this kind, isn't the order of the data a very different thing from ordering a set of random numbers which will tell you nothing where the 25th [Tr. 10,637] number will be or a number of grades, which tells you nothing where the next grade would be if you performed a regression on the grades as ordered?

A. Yes, if you have assumed and can assume that there is a meaning to the rank, that there is some relationship between the rank and the variable, for example, that you have indicated here, namely, the additional million dollars in the budget, one could make such an analysis.

Again, I think the problem here is not one of the hypothetical cases but the practical application of that, in which the way the data is arrived at, is of paramount importance.

Q. And you have made no study here of whether it would or would not be reasonable, in terms of experience, to rank profitability of individual aircraft?

A. No, I have made no such study.

**Excerpts from Transcript of
Deposition of Robert W. Rummel**

[Docs. 224-227]

[Dep. Tr. 227] * * * Q. At that time, namely, 1943, what other plans or programs were underway at TWA with respect to aircraft acquisition or the development of an air fleet?

Mr. Barr: May I have that read, please?

The Special Master: You may.

(The question was read.)

Mr. Barr: Thank you.

[Dep. Tr. 228] A. I don't recall any specific programs, Mr. Davis. This was in 1943, and the size of most airlines had been reduced or, let's say, expansion plans were not being fulfilled because of the war effort, the airplanes simply weren't coming along.

I don't know of any specific programs. I think, as I recall, the company was trying to look at a number of possibilities to see—to be poised, you might say, to try to move if conditions would warrant moving.

Part of my initial work was to look at various airplanes, see if they could be converted, what they could be converted to, or what they might produce if they were converted, to talk, which we sometimes did, with the manufacturers with respect to what they might be planning for the post-war undertakings.

Q. Will you describe what you were doing along those lines, identifying the manufacturers, the kind of activities that you were engaged in at that time?

A. By "that time" I assume you mean 1943, 1944, in that area?

Q. In that period, right.

A. Rather than—

Rummel—Deposition

Q. Rather than what?

A. Rather than right after I joined the company. I [Dep. Tr. 229] was simply getting on my feet at that time. Answering this question will involve covering some period of time.

I looked at various interior configurations of the DC-3, including three-wide and four-wide seats—that is, three across and four across the cabin seats—payload range characteristics of converted DC-47s, the same for C-54s, the same for C-69s—

Q. C-69s?

[Dep. Tr. 230] A. Yes. (Continuing) —we analyzed commercial application of a very large double deck six engine Convair, one or two of which were being built for the military, we considered the—we considered a commercial—we considered commercial possibilities of the Lockheed Constitution, which was then being built, as I recall it, we looked at possibilities of adapting the large Douglas transport—the number I don't recall at the moment—to post-war work, we even had a look at the Hughes flying boat, we had a look at the Northrop all wing bomber, we looked at the Budd Conestoga—

Q. Budd—

A. (Continuing) —B-u-d-d Conestoga—it was an all-stainless steel cargo airplane—we took a rather quick look at the Curtiss-Wright wood cargo airplane, we looked at the Curtiss C-46, which was the commercial development of—no, I said that wrong—we looked at the C-46 converted on paper into a post-war airplane and the CW-20, which was the commercial development of the C-46, we looked at various preliminary designs that Convair, under McLendon, were working up from time to time, we did the same with Ed Burton at Douglas, and Boeing managed to pro-

Rummel—Deposition

duce a few thoughts on post-war airplanes even then, and would review them with us from time to time.

Numbers of these meetings with manufacturers and [Dep. Tr. 231] the undertaking of these study projects were on direction from Jack Frye to Franklin and to myself. I occasionally would meet with Frye on some of these things.

There could have been others. Now, some of these were extended studies, some were quite brief.

Q. Were these activities in connection with an effort to develop a program post war or in anticipation of the end of the war, is that what you were doing during this period?

A. Yes. I think it could probably be summed up by saying that we desired to be in a position to recommend definitive action at such time as definitive action might be in order, depending on how the war turned, and so on and so on.

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[Dep. Tr. 248] . . . Q. Were you ever told, was it ever suggested to you by anyone, that you should not approach anyone to explore the possibilities of their having a useful product?

A. Well, yes, I have been, but not at this particular time, as I recall it.

Q. Will you identify the time, then, when you were?

A. Well, not precisely, but it was essentially later on, I was asked not to approach various manufacturers at times in different areas, sometimes on the basis it wasn't [Dep. Tr. 249] timely, sometimes on the basis of simply that this wasn't to be done. I realize that isn't very specific.

Q. Can you be specific?

A. Yes. I was asked not to do much with Douglas during the jet period, early jet development, on the basis that we couldn't get with them anyway.

Rummel—Deposition

Q. On the what?

A. Basis that we really couldn't get with them anyway. There were times I was asked not to work with Lockheed in certain specific areas. I believe I was told at one time not to work with Boeing on the jets. That was likely in the 1953-1954 period. I was definitely asked not to work with Convair on the 990.

That's all I seem—that comes to mind.

Q. All those instances related to the so-called development of jet aircraft or jet age? How would you describe this period?

Mr. Williams: Before we pass to any other question, I will ask the Special Master if he will ask counsel to fix—when he says he was asked—to fix the person, the time and place of such conversations.

Mr. Davis: May I do so in my way?

Mr. Williams: I think this is the time to do it. The witness has said he was asked to do some [Dep. Tr. 250] thing. I want to know who it was.

Mr. Davis: May I do it my way?

Mr. Williams: I think there comes a time—

The Special Master: I think he is entitled to have it developed as a part of this examination.

Mr. Davis: I intend to.

The Special Master: You may do it in your own way.

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[Dep. Tr. 273] [Mr. Williams] • • • Let's not be diverted from the objection which I raised, that when you elicit from a witness an answer with respect to a conversation we are entitled, no matter what your purpose, or what you want to do, or how clever you

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may be, to have the name of the participants in that conversation.

I would like to ask, Mr. Special Master, that the witness and counsel be required to state who it was who asked him not to get in touch with these various airplane manufacturers.

The Special Master: I will sustain the objection, and direct that at this point the inquiry be made as to who made this instruction each time, and then I will give you a full opportunity to develop every situation to the fullest extent so that there could be no misunderstanding about the context in which it was given and any surrounding explanation or reasons for the direction.

Mr. Davis: Mr. Special Master, I, for the record, want to state that I believe it to be my right to conduct this discovery as I see fit.

[Dep. Tr. 274] I have no objection to interrupting my discovery to allow either the Special Master or Mr. Williams to ask this witness any questions as to any area as to which he has already testified.

The Special Master: I will interrupt it myself, and I will ask the witness to state on each of these occasions that he has described who gave him such directions as he has described and when. Take them one at a time.

The Witness: The initial instructions on the 990 were through the Hughes Tool Company representatives. This was repeated later on by Mr. Hughes in a phone conversation to me, that is, that I should not have anything to do with the 990.

The Special Master: Did he give you any reason for that instruction at the time?

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Mr. Davis: I don't believe we have on the record what the instruction was yet, do we?

The Special Master: Tell what the instruction was.

The Witness: The instructions were that I should not participate or allow the participation in either contract or specification development activities, that we should not inspect any 990 parts or components at [Dep. Tr. 275] the Convair facility, and that we should not discuss the 990 with Convair.

The Special Master: Was any explanation given to you at that time as to why you should not have such discussions?

The Witness: Well, Mr. Hughes generally wasn't in the habit of explaining detail or reasons for instructions. The impression I had was that he preferred to either work himself on the 990 or have Tool Company representatives do it. It was clear that I was not to.

The Special Master: Did you understand from him there was some reason that you personally should not do it?

The Witness: Well, if it was a personal reason, I don't think I understood it.

The Special Master: You didn't understand that it was something involving your own personality in the contact that you might make?

The Witness: My personality?

The Special Master: Yes.

The Witness: No, I certainly didn't so understand it.

The Special Master: You just understood that he was instructing you not to get involved in the 990?

[Dep. Tr. 276] The Witness: That's right.

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The Special Master: Did you understand that that included all the TWA people, that instruction?

The Witness: Yes. Well, it included all the TWA people that I had any jurisdiction over.

The Special Master: And there was no further explanation than you have given?

The Witness: Not that I can recall. I say, the impression I had was that these were areas in which he preferred to work himself, or have others work, rather than have me work in the areas.

The Special Master: By that—

The Witness: By that I mean TWA in this case, or as a representative of Hughes Tool Company, either one.

The Special Master: He thought someone other than TWA people might do it more effectively?

The Witness: I can't say that was either stated or inferred, Mr. Special Master. It simply was that he did not want me to work in this area.

The Special Master: What was the next time that he instructed you not to work with some manufacturer?

The Witness: This also was a phone conversation. I can't be real specific on the time, but it had to [Dep. Tr. 277] do with the Lockheed Electra. Let's take the Lockheed Electra as the next one that I mentioned earlier. The impression that I had then was that he was working with Bob Gross and possibly others giving consideration to possibilities of procuring the Electra, and that it simply wasn't timely for any activities on my part. I got the impression that rather than having the issue confused that I should not do anything but bide my time.

The Special Master: What was the next instruction?

Rummel—Deposition

The Witness: These are not really in sequence. The conversation relating to Boeing was that he did not want any promotional work done at Boeing, by that I mean he didn't want TWA to influence the Boeing design to make it a better design, he didn't want anything done on deliveries, and I got the impression, and I can't, again, recall it word for word, but I recall having the impression that he felt this was a premature effort, until he had time to give it further thought, presumably, and I say "presumably" advisedly, in consultation with me and others, I am sure he talked with many people on airplanes, until such time as it appeared that we could center our attention on a [Dep. Tr. 278] product which would permit us to take a lead, and this might or might not at this time turn out to be the Boeing.

The Special Master: I get the impression from what you say that you understood that he was asking you not to do more with Boeing with the idea that he did not want you to help develop an airplane that would not be fully satisfactory for TWA purposes, and wished to wait until you had worked out the state of the art to such an extent that you could have the best plane possible. Is that what you are saying?

The Witness: Well, partially. We had had a number of cases previous to that time wherein TWA's negotiation effort had produced airplane improvements which TWA did not finally avail itself of, but the competition did.

The Special Master: You really helped your competitor, then, in those efforts?

The Witness: Well, this, I think, was a general thing that he was trying to avoid. I don't recall

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whether or not this specific thing was stated in the conversation or referred to, but I understood his feeling on this, in fact I shared it to a great extent. We had, in the past, done a number of things, and [Dep. Tr. 279] developed airplanes in negotiating efforts which we didn't finally buy. The DC-6B, for example, which I mentioned yesterday, was one of them. I don't say it wouldn't finally be developed, but that is what developed.

The Special Master: What is the next instruction that you recall? Did you mention something about Douglas during your testimony?

The Witness: Yes. I would say Douglas might have been more a discussed understanding between us than a specific instruction as such, but I took the effect to be the same.

The Special Master: What do you mean by a discussed understanding? You must have had some communication.

The Witness: Yes. I had numbers of phone conversations with Mr. Hughes on various jet airplane developments as I had understood them. The Douglas situation was not particularly a happy one at this time.

The Special Master: Did you discuss that with Mr. Hughes, the fact that it was not a happy situation with Douglas and TWA at that time?

The Witness: Yes. As I recall it, I did discuss that. The unhappiness, if you like, was not so much between TWA and Douglas as it was between Douglas and [Dep. Tr. 280] its thoughts concerning its prospects for dealing with Mr. Hughes.

The Special Master: I see.

Rummel—Deposition

The Witness: It seemed to have the conviction that it could never complete a deal with Mr. Hughes.

The Special Master: Did Mr. Hughes say anything to you about that in this instruction, about whether there was a possibility of making a deal?

The Witness: I really can't recall the discussion quite that clearly. The net result I do, which was that we would let Douglas go their way, and if there were to be any contacts with Douglas, that Douglas would have to contact him first. It was that kind of a situation.

The Special Master: Had that continued for some period of time, that kind of a situation?

The Witness: Yes. Well, not—it came to a head I think with the Douglas decision to build commercial jets. In a way, Douglas was saying that they would be happy to deal with TWA, in fact, I had a call on that line, but that they didn't feel they could conclude a deal with Mr. Hughes, and they felt that they would devote their effort in other areas.

The Special Master: Did you report that to Mr. [Dep. Tr. 281] Hughes?

The Witness: I don't recall reporting it in those specific terms, but there was—as I say, the discussion embraced this general situation.

The Special Master: What did Mr. Hughes say then? Did he make it clear that if Douglas didn't want to deal with TWA by avoiding him that that wasn't to be done?

The Witness: Well, as I remember it, he took the attitude that Douglas would have to come to him before we did any more with them, and we did not work with Douglas. I think on top of all this the

Rummel—Deposition

impression I had from Douglas was that Douglas feared we were trying to do them one better, and were simply trying to find out what they were doing, which, of course, was not the case.

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[Dep. Tr. 354] . . . Q. And subsequently did AVRO offer any other type of aircraft to the U. S. Airlines?

A. Well, as far as I know, AVRO did not offer anything to the U. S. Airlines at large, although they might have without my knowledge, obviously.

AVRO worked with me and with Mr. Hughes over a fairly extended period of time toward the development of a transport airplane. This was subsequent to the small four engine jet period that I just mentioned.

As I recall it, this was 1954, 1955, and I think into 1956. I am not saying that we worked continuously. There were a number of meetings, and AVRO from time to time had produced plans and information for review.

I might say too, Mr. Davis, this was one of those projects which was highly confidential and extremely restricted in TWA as to the numbers of people that knew about it or had anything to do with it.

Q. Was there any particular reason for that secrecy or restriction?

[Dep. Tr. 355] A. Well, first, it was Mr. Hughes' desire. Secondly, it was my understanding that we were trying to explore possibilities toward developing an airplane better than the competition could develop, and the last thing we wanted at that stage was to have the story out.

Q. Then what happened to this subsequent effort by AVRO to develop a suitable commercial jet transport?

A. As I understand it, you are asking what the end point of all this was?

Rummel—Deposition

Q. Yes.

A. Well, the end point was it wasn't produced.

Q. It was not produced?

A. No.

Q. When you say "not produced," you mean AVRO never in fact produced any commercial jet transport, is that correct?

A. We didn't contract for them, or Hughes didn't contract for them.

Q. I understand that, but my question is whether or not any other airline contracted for them or—

A. No. They weren't produced. As far as I know, there were no contracts for them, and as far as I know, and I certainly can speak only from what I know myself here—

Q. I understand.

[Dep. Tr. 356] A. (Continuing)—this was such a secret venture, let me say I would be surprised if AVRO talked to other airlines. Now, this doesn't go to say that they didn't, or that they might not have. Perhaps there was other understandings I didn't know about.

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[Dep. Tr. 362] * * * Q. Mr. Rummel, I believe we had about completed your description of the extent to which Canadair was a factor in the availability of aircraft to the commercial airlines of the United States, isn't that correct, you had finished your description of that aspect?

A. I believe so.

Q. Before I leave Canadair, however, during that period which you have identified was Canadair a subsidiary of General Dynamics, another division comparable to Convair?

A. I believe they were during a substantial part of that period, at least. I am not certain as to the date of that affiliation.

Rummel—Deposition

Q. The next manufacturer which you have identified, according to my notes, at least, is DeHavilland of England.

Will you give us the same type of information with respect to that manufacturer?

A. My first direct contacts with DeHavilland were—began I think in 1952 or 1953. DeHavilland were developing the Comet airliner, which was a four-engine jet. In fact, it [Dep. Tr. 363] was the first long range high speed jet that was produced, and it was viewed as a highly advanced airplane. The AVRO I mentioned earlier was a small low speed, relatively speaking, jet, not in this category.

I visited the DeHavilland factory, looked at the production line, which was then primarily empty, and looked at a Comet. I may have that 1952 year wrong. In any event, to pin it down, if it requires pinning down, it was shortly after the first Comet had flown, maybe a few months, that I was there.

DeHavilland had kept I think all airlines and all prospective customers, at least, this is my impression, they certainly did us, advised generally of the progress they were making, the kind of airplane they were producing, and clearly England wanted to use it as a vehicle to break into the world air transport market.

There were a number of subsequent meetings with DeHavilland. As I recall it, we fairly seriously considered the procurement to the Comet on two occasions. I am not clear as to the exact timing here.

I discussed the Comet with Mr. Hughes numbers of times by telephone, and obtained delivery information and that sort of thing, which I also made available to TWA.

As I recall it, at one point our board of directors [Dep. Tr. 364] met in London and had a short ride in the Comet, although I had no part of making that particular arrange-

Rummel—Deposition

ment, didn't know about it until afterward. I viewed it as—I assume it was a courtesy demonstration of some sort.

Pan American in fact bought or committed to buy a number of Comets. I recommended against the Comet for a number of technical reasons. This was before the Comet had run into serious technical difficulties. Mr. Hughes seemed to agree with this view. In any event, no commitments were made either by Hughes or by TWA.

After the series of crashes and the resulting redevelopment of the Comet, approximately during the time when this was being implemented, the line was being re-established, again, I am not certain precisely the year, but I would suspect that it would be in 1955, I think, 4 or 5, maybe 1955, DeHavilland was demonstrating I believe a Comet somewhere in Canada. In any event, there was a group of DeHavilland people in Canada flying some airplane, and as I recall it, it was a Comet, but I am not certain.

In a phone conversation with Mr. Hughes, I remember I was home at the time, in Kansas City, he made—this is probably why I recall it this clearly—what was an unusual and challenging but I think unimportant, in a sense, request, he asked that I get ahold of—contact a certain individual [Dep. Tr. 365] I know, whose name is Frank Lloyd, at DeHavilland, that I was to do this without letting the operator know at the other end who I was, where I was calling from, I was not to contact anyone else before speaking to him—there were some limitations that bring this back to mind. I don't think it is important to this testimony, but I did succeed in getting hold of him on the third try, as I recall. I had no idea when I started where he was, except that he was in Canada.

In any event, the Hughes' request was to contact Frank Lloyd, and determine what they could really do for us with

Rummel—Deposition

respect to early airplane deliveries, get their thoughts on airplane price, and then discuss it with him.

He suggested—

Q. "He" being Mr. Hughes?

A. (Continuing)—Mr. Hughes suggested that Lloyd and I get together right away, but that no one in TWA be permitted to know a thing about this.

I called Lloyd, as I say, Frank, and got ahold of him, and arranged to meet him in Chicago. In fact, I had the hotel room set up through the West Coast Hughes' office to maintain security, and I met Lloyd—let me say I got ahold of him late at night—I met him the next evening in Chicago, and as I recall it, it was the Blackstone Hotel.

[Dep. Tr. 366] After discussing the situation with him, after he went through a series of documents and things on deliveries and whatnot, I got Mr. Hughes on the phone as he had directed that I do. I might say that it was not normally possible to simply call Mr. Hughes except by his agreement that he should be called or by some prior arrangement. But I got him right away, and talked to him very, very briefly, whereupon he discussed this situation with Mr. Lloyd.

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[Dep. Tr. 370] . . . Q. I was going to ask you that question anyway, Mr. Rummel, and while I am at it, could you tell me whether or not this expiration of the Pan Am order took place before or after the decision by TWA to abandon further efforts to procure the Comet?

A. Well, I don't know of any TWA decision. Maybe you didn't mean it that way. As I said, it was between Hughes and myself and Lloyd, and I recommended to Hughes, as I recall it, and there was a full discussion between us, and the net result of it all was that we didn't move.

Rummel—Deposition

Q. I understand that. My question then is did this Pan Am abandonment of their order take place before or after your recommendation to Mr. Hughes?

[Dep. Tr. 371] A. I am just not sure about that now.

Q. But you are clear, or are you clear, that your decision and recommendation was not influenced or predicated by the action taken or lack of action taken by Pan Am?

A. Well, we tried to take cognizance of our equipment position as it would be with the airplanes and without the airplanes, as we understood that others would be.

As I recall it now, we had in mind putting the Comet in service in the U. S. rather than overseas. I can't state that as a fact, except that it is what I presently recall, in order to get a jump on the competition, and possibly undercut airplanes like the Electra. At least, we gave consideration to the possibilities of this type, and I am quite sure this was one of them at the time.

Q. My question was whether or not your recommendation was influenced by the fact that Pan Am had abandoned its procurement program of Comets, or whether that was a factor at all in the decision which you reached in connection with your recommendation.

A. I don't recall, Mr. Davis. I certainly wasn't blind to what Pan Am was doing, as nearly as I could find out what they were doing.

Q. In the course of your description of the discussions with DeHavilland you referred to several conversations with [Dep. Tr. 372] Mr. Hughes, and then you described some of them.

Have you—

A. I described one of them, I think. Anyway, excuse me.

Rummel—Deposition

Q. I thought there was at least one as to how to contact your friend Mr. Lloyd, and one in Chicago—

A. Oh, yes, sir.

Q. Then presumably there was one when you made your recommendation not to go ahead with the Comet?

A. This is right.

Q. Is that right?

A. Right.

Q. Because what I want you to do now is to give us the full nature of whatever discussions you had with Mr. Hughes relative to DeHavilland. By that I mean at least by describing the subject matter you were discussing in such further detail as you care to give, but I am not trying to turn this into a technical discussion of all the technical aspects of the aircraft.

A. Mr. Hughes always had great interest in the design aspects of airplanes, the power plant installation, for example, structure, he was interested in—greatly in pressurization aspects of the airplane with respect primarily to safety. In fact, he was interested in safety [Dep. Tr. 373] aspects in almost every aircraft design of the airplanes on which we worked.

One of the areas that I am certain we discussed was the use of material in the Comet, the fact that they used pre-stretched skin, extremely thin skin. We considered a number of structural factors.

We were—talked about the fact that the engines were buried, built within the wing, the wing surrounded the engines. This introduced questions, such as the likelihood of or the problems of containment of fire if fire should occur, the effect of an explosion at such a vital structural area, not that we predicted explosions, but I mean, these things were discussed.

Rummel—Deposition

We discussed performance aspects of the airplane. As I recall, this was of particular interest. Range, payload. We had run some studies on predicting the operating cost of the airplane, and by that I mean the direct operating cost. These were reviewed at one time or the other during this period, probably several times.

[Dep. Tr. 374] I might interject this, and say that DeHavilland were offering several versions of the Comet. This wasn't one airplane. It was one, a succeeding model, and then one they were thinking of, that kind of thing.

We talked and discussed airplane price, I think we talked about the general ability of a manufacturer like DeHavilland to produce aircraft that would measure up to standards that we were accustomed to, I think we talked about CAB approvals.

It was an effort to evaluate, let's say, and judge the wisdom of proceeding or not proceeding.

Q. Then you had discussions about the necessity or desirability of secrecy?

A. Yes. This stemmed from Mr. Hughes.

Q. I would like you to describe or give us your recollection as to the nature of those discussions.

A. Well, it was just a clear statement that I wasn't to talk to anybody, including the people in TWA, about this exercise. I am referring now to the particular sequence just before and then following the Chicago meeting.

The earlier investigations, while there were discussions with Hughes, as I recall them, were not particularly secret.

[Dep. Tr. 375] Q. What I am trying to understand, Mr. Rummel, is what reasons or explanations, if any, were given to you by Mr. Hughes in connection with this secrecy aspect.

A. I don't recall any specific explanations, Mr. Davis.

Rummel—Deposition

Q. What was your understanding—excuse me.

A. I don't recall any specific explanations. My understanding was that I wasn't to say anything.

Q. What was your understanding as to the reason for the request?

A. Well, I don't know, but it wasn't a particularly unusual request, as I recall it.

Q. It was not unusual?

A. No, to deal quietly, so to speak, in dealing in matters in which Mr. Hughes was interested.

Q. Do you recall whether or not Mr. Hughes gave you any reasons or explanations for not discussing these matters internally at TWA?

A. No, I don't recall.

Q. Who was the chief executive officer of TWA during this period which you have been describing? Mr. Damon died in 1956, did he not?

A. That's my recollection.

Q. Subject to correction, let's take it—

A. Yes. I think Mr. Damon was still there at this Dep. Tr. 376] time.

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Q. Now I would like to go back to these instructions you received from Mr. Hughes relative to secrecy, more particularly, secrecy involving the internal organization of TWA, and I would like you to tell us your recollection as to how Mr. Hughes made that request and your understanding at the time of the reason or basis for the request, if you had any understanding.

A. As I recall it, I don't recall Mr. Hughes explaining to me the reasons for this in this particular instance. Dep. Tr. 377] He might have. I don't recall it. Anything

Rummel—Deposition

beyond that that I would say I think would simply reflect a general assumption on my part as to what might or might —might have led him to say that, and I don't know what led him to say that specifically. He said it, I didn't.

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[Dep. Tr. 509] * * * Mr. Davis: What decision was made by TWA, if one was made, as to what they would pursue with these various manufacturers?

Here we have testimony of this witness that Sud came to them with a potential program.

Boeing was doing what they were doing.

Douglas was doing what they were doing.

I want to know what decision TWA made.

Mr. Williams: I object on the ground that we have gone into this in detail. That the witness has particularized the degree of consideration given to each program. Whether it was preliminary or serious, the very type of plane—and I have notes here, which if I need to argue it, I could, but I don't think we need to go through all this again.

The Special Master: I have the impression of the testimony that the witness said that during this period of time they considered not offering, but the type, and they conferred with Sud about it, but they **[Dep. Tr. 510]** did not take any steps to procure it.

Is that correct or not?

The Witness: That is certainly correct from TWA's point of view.

The Special Master: Isn't that the question?

Mr. Davis: No, sir. I want him to describe how this decision was arrived at, what they decided to do, if anything. We know they didn't get Caravelles,

Rummel—Deposition

they got something else eventually. That is a record which even Mr. Williams can't question.

The witness testified about Mr. Hughes' interest. He testified about some program with a possibility of TWA going into the manufacture, or the Tool Company going into the manufacture of Caravelles.

What I don't understand yet is what, if any, decisions were being made by TWA management as a result of the situation which he has now finished describing.

In other words, sir, I point out that we had a situation where during this period of time the airline was interested in pursuing some course of action with either one or more manufacturers. I am interested in getting a description from this witness as to what decision was made, how it was arrived at, [Dep. Tr. 511] who participated in it, and what TWA did.

The Special Master: You may ask him the question if whether or not there was a decision made with regard to this Caravelle program in the period from 1952 through 1954.

Mr. Davis: May I point out, Mr. Special Master, that this witness is likely to address himself merely to the Caravelle program, if phrased that way, and the Caravelle was an aircraft of competitive potential with other type of aircraft.

What I am interested in at this point is the testimony of this witness as to the decision, if any was made, with respect to which type or category of aircraft, jet aircraft, they were interested in pursuing, or as he previously testified, what they did in order to develop some competition among manufacturers so as to have a choice.

Rummel—Deposition

The Special Master: I will consider the other types of planes after you get into this one, and get this buttoned up.

By Mr. Davis:

Q. Will you describe, then, Mr. Rummel, what decisions, if any, were made by the TWA management with respect to [Dep. Tr. 512] this offering by Sud?

A. I don't recall TWA management making any decision with respect to the Sud offering. I am speaking now of the decision with Sud that led to the consideration that air-planes be manufactured over here.

Q. Who was that discussed with? Was that discussed within TWA, and if so, by whom?

A. Not to any appreciable extent at all. It was discussed primarily between myself and Sud, and myself and Hughes, and then to the extent that Sud was able to talk to Hughes about it.

Q. What I don't understand is why TWA gave any consideration to the manufacture of aircraft at this period.

A. This was essentially a discussion between Hughes and myself, and just what may have been in Hughes' mind at that time I couldn't say. I don't think it would be correct to say that TWA gave any management consideration to the manufacture of aircraft as such. This possibility was explored by myself on behalf of Hughes.

Q. What conclusion, if any, did you reach as to the economics or desirability of acquiring some Caravelle jet aircraft as an addition to the TWA air fleet?

Mr. Barr: From the context, may I request Mr. Davis specify who he means by "you"?

[Dep. Tr. 513] The Special Master: Will you explain by that in which of your capacities you consider you were acting at that time?

Rummel—Deposition

The Witness: In a good many cases, Mr. Special Master, it seemed to me the interests were parallel. It would be hard to say to what extent representing TWA and Hughes. At that time I was a special agent of the Tool Company.

The Special Master: If you think you were acting on behalf of both, just so state.

The Witness: With respect to representation of what might fit the airline, I was reflecting TWA. With respect to the manufacture of airplanes, it was exploratory on behalf of Hughes, and I was not reflecting any views expressed to me by TWA management at all. In fact, this investigation was conducted in almost complete secrecy from TWA management.

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[Dep. Tr. 531] *** Q. Mr. Rummel, before I enter into another area is there anything that you would like to say, explain or add to, with respect to the testimony that you have given us [Dep. Tr. 532] to date?

A. Yes, there is, Mr. Davis.

On further reflecting on the Caravelle situation, and recalling what was said yesterday, it seems to me that there might be some confusion as to the timing of the Caravelle demonstration here in the States.

You may recall I mentioned that we held on to a facility in Kansas City and that at Mr. Hughes' request I contacted Mr. Burgess. I also contacted some others in this regard. But this was during the Burgess regime, obviously, which was in 1957. As I recall it, you kept interrogating me about a competitive situation that existed more toward the beginning of the Caravelle exercise, 1952 to 1954, and then 1955, and I said I wasn't exactly sure when this trip was, but I

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thought it was late in that period, and I just want to be clear, on further recollection I can establish that the Caravelle tour was in 1957. I think it was the first half of the year, but I am not sure of the exact dates even now.

Q. So that in 1957, and after orders had been placed with Boeing and Convair for jet equipment—

A. This is correct.

Q. (Continuing) —TWA was still giving active consideration to the possibility of the Caravelle program, is that [Dep. Tr. 533] the fact?

A. Well, the Caravelle sequence I mentioned yesterday with respect to exploring whether or not a construction program should be undertaken was primarily between Hughes and myself and the Sud Aviation people.

As I mentioned, Ray Hopper was involved. I don't know whether Ray had the background fully or not.

TWA was not a direct party to any extent I can recall to this exercise. I think it would be fair to say that some of us at TWA recognized the ultimate need for a smaller short-haul type jet at such time as we could move forward with such program. By "such program," I mean program to procure one way or the other short-haul jets.

Q. What is not clear to me from your last answer is what you were discussing with Mr. Burgess, then, with respect to facilities in Kansas City in 1957.

A. Well, only this, Mr. Davis: As I indicated yesterday, TWA was then moving from its Fairfax airport airplane and engine overhaul facility to a new facility, also in the vicinity of Kansas City. This made this facility at Fairfax available.

TWA was negotiating, as I recall it, through George Clay's office with Kansas City, Kansas, to release [Dep. Tr. 534] the facility back to the city. When Hughes and I dis-

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cussed the possibility of manufacturing the Caravelle, the question of where this could be done arose, and Hughes suggested that we try to hold on to this facility until the question was resolved.

I contacted both Clay and Burgess. I did not explain to either of them the reason for it. I simply said there was a request to hold on to the facility for a while.

Q. Those facilities were subsequently disposed of?

A. Yes. After the Caravelle negotiation, that is, this particular negotiation, was concluded, and when nothing came of it, then I took it upon myself as being an obvious thing to go ahead and release the facility.

I do not recall specifically inquiring of Hughes at that time whether I should release it, but I did release it by simply advising Clay, as I recall it, that it was no longer needed.

There was one or two memos memorializing the request that it be retained and its release, as I recall it, but they were entirely non-denominational, insofar as the Caravelle or any other specific project was concerned.

Q. Do you recall approximately when it was that you [Dep. Tr. 535] released those facilities?

A. No, I don't know. I say, it was following this particular exercise.

Q. You can't give me a year—

A. Well, I guessed a few times on years yesterday. I can't be specific. Presumably, it would have been following this period. I know it was following the period, but I don't know exactly when it was.

Q. You understand that when I am asking you for a date I am not asking you for a specific day of the year, or even month of the year. A year, or part of the year, would be enough for me, and always subject to correction when

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you confirm what the more exact date is. You understand that, don't you?

A. Yes. That was the nature of my comment this morning, to try to clear the air, because we were talking about a rather broad period of time yesterday, and while I did identify it with Burgess, it seemed to me there could be some confusion on the point.

Q. Who was Clay?

A. Mr. Clay was then our corporate secretary.

Q. Isn't it true, though, that in or about 1957 is when you arranged for this demonstration of the Caravelle?

A. Yes.

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[Dep. Tr. 537] *** Q. Then, as I recall, the ship, that is, the Caravelle, went to Los Angeles for the specific purpose of giving Mr. Hughes an opportunity to either fly it or examine it or what have you, is that right?

A. It was flown to Los Angeles.

Q. For that purpose?

A. For that purpose.

Q. My question was whether it is a fact, therefore, that as late as 1957 TWA or you and Mr. Hughes were still giving active consideration to the possibility of procuring some Caravelles. Is that true or not?

A. Everything he said suggested complete seriousness on his part, and I certainly was serious, following through with what I was supposed to do as a result of my conversations with him.

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[Dep. Tr. 619] *** Q. Let me ask you this. Are you familiar with the circumstances or decisions made in connection with the reduction of the number of 880s which

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TWA was to acquire from 30 to 20 or 24, or some other figure?

A. I am not familiar with how the decision was made or who made it.

Q. But you are aware of the fact that that event did [Dep. Tr. 620] take place?

A. A reduction from 30 to 20?

Q. Yes.

A. Yes, I certainly am.

Q. When did that take place, do you recall?

A. It seemed to me to dance around—there were various numbers back and forth. As I recall it, TWA's understanding that it would get 20 was made during Thomas' regime. I don't remember exactly when, but that is my recollection. It was during his regime, and then did not from that time on change from 20.

Q. Did you or your group make any studies or evaluations as to the desirability of reducing the number of 880s from 30 to 20, in terms of TWA's need, the size of its fleet, the economic use of the aircraft?

A. My personal recommendation throughout was that TWA should have 30 airplanes. However, we did make a study showing what TWA could do with 20 when it was requested that we do that.

Q. Who requested you to do that?

A. I am just a little vague on that. I think we were advised that it was 20, and I think we then in our projections included 20.

Q. Did you have any discussions at any time—

[Dep. Tr. 621] Mr. Williams: Just a second.

A. That was all.

Q. Did you have any discussions at any time with Mr. Thomas or any other senior executive at TWA as to either Mr. Thomas' views—

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A. Yes. I recall recommending to Mr. Thomas that we go for more than 20 airplanes.

Q. Do you recall what he said?

A. He seemed to favor 20.

Q. Can you tell us what transpired? What happened?

A. As I recall it, we were sitting in his office talking. I think at one such meeting Mr. Leslie was there. I believe Mr. Thomas expressed the view that he would rather have an airline somewhat underequipped rather than over-equipped. Let me say I got the impression that 30 wasn't at that point even an admissible number somehow. I think my effort was to try to change a prior decision.

At least that is the impression I have now of what was taking place. I don't recall precisely what was said.

I think Leslie's view was pretty much the same as Mr. Thomas', although as I recall it, his view varied from time to time as to how many airplanes he thought TWA should have.

My own view was consistent. It was that we should have the 30. I still think we would have been better off as [Dep. Tr. 621A] an airline to have them. That's neither here nor there at the moment.

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[Dep. Tr. 622] By Mr. Davis:

Q. Mr. Rummel, perhaps I can direct your attention to what I have in mind more effectively through this document.

May I have this marked as a defendants' exhibit? Those are handwritten notes of Mr. Thomas supplied to us by his counsel in response to a subpoena.

(Handwritten notes of Mr. Thomas marked Defendants' Exhibit 155 for identification, as of this date.)

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Q. Are you familiar with Mr. Thomas' handwriting?

A. Not particularly.

Q. I am not going to ask you to authenticate this document. On page 2 of what has been marked as Defendants' Exhibit 155, the following appears:

"When Dillon, Read started to work on a permanent financing plan, Mr. Hughes sent word that 25 Boeing 707's and 20 Convair 880s would be made available to TWA, and the financing should be predicated on that basis. This reduction followed TWA's management's recommendation, and was perfectly acceptable."

My question to you, Mr. Rummel, is are you familiar with TWA's management recommendation to the effect that the Convair 880 program, so far as TWA was concerned, should be reduced from 30 to 20?

Mr. Barr: Could I have that question read?

[Dep. Tr. 623] (The question was read.)

Mr. Barr: I object to the form of the question.

The Special Master: Why?

Mr. Barr: Because "from 30 to 20 of the management's decision" referred to reduction.

Mr. Davis: The witness testified his recommendation was 30, and was still his recommendation.

Mr. Barr: That is not the management decision referred to in that memorandum.

By Mr. Davis:

Q. For the reduction of the 880 program to 20 from whatever it was prior thereto.

The Special Master: Is there any objection in that form.

Mr. Barr: No, sir.

The Special Master: You may answer it.

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A. The first recollection that I have, Mr. Davis, of No. 20 is hearing it from Leonard Schwartz in a phone call. As I recall it, Leonard was in New York, and I was in Kansas City.

Q. I am trying to refer you to the recommendation of TWA's management. I am asking you if you are familiar with the recommendation of TWA's management, either to [Dep. Tr. 624] Mr. Thomas or to Mr. Hughes or to anyone, to reduce the procurement of 880s downward to 20 aircraft.

A. I don't recall ever having participated in that kind of a recommendation.

Q. Let me then read to you the paragraph on that same page 2, of Defendants' Exhibit 155, which reads as follows:

"The commitments of the HTC for jet aircraft at this time was for 33 Boeing 707's, and 30 Convair 880s. I had stated several times that I thought the airlines had overbought on jets, and recommended that the HTC cut back on some of those orders if they could. This would make it possible to start jet operations with a good basic jet fleet, and then after a year or so operating record and appraisal of the market know what additional jet planes were needed and the type that best suited to keep TWA in the forefront of the industry."

Mr. Barr: Before you ask the question, Mr. Davis, I don't have this before me, but for the record could you state what the date these notes of Thomas bear?

Mr. Davis: Yes. They are dated March 1960, I believe. That is my information. It does not appear on the face of this particular exhibit, Mr. Barr, what the date of these handwritten notes were. [Dep. Tr. 625] My information is from the balance of the

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material furnished to us, and I believe to you and counsel for TWA by Mr. Thomas, that they were in March 1960. Page 7 of that exhibit refers to the morning of March 21st at 10:00 a.m. On page 4 there is a sentence which reads:

"The 2nd of December, 1959, and sufficient planes after January 1, 1960, to commence service in March 1960."

In other words, I think that you have to read the document itself and the events which were taking place to satisfy yourself that the date of these handwritten notes relate to a period in March 1960.

Mr. Barr: Thank you.

By Mr. Davis:

Q. My question to you, Mr. Rummel, is whether or not you are familiar with or ever heard of those views being expressed, either by Mr. Thomas or other senior officers at TWA?

A. Yes, I recall Mr. Thomas expressing the view at one time that if we obtained relatively few Boeings and Convairst, that in his view we would be in somewhat better shape, or maybe in a better position, if you like, to procure succeeding models that might be superior to those [Dep. Tr. 626] that were then being offered. However, this was long, long after the phone conversation I referred to a moment ago with Mr. Schwartz.

I recall, I think, that this took place with Thomas some time during 1960. I don't recall exactly when. I think at the same meeting he expressed the view that he personally thought the industry had overbought. I remember arguing with him some on that.

I believe Mr. Fellows was present at the meeting, and argued against that idea too.

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I recall Thomas having commented pretty much as I understood you to read this, but this was quite late in the game, and long after the Schwartz conversation.

Q. Is that your full and complete recollection relating to that point of view? Did any other senior officers at TWA express comparable views?

A. I think Leslie did. I don't know that he expressed comparable views as to the reasons for his views, but I think he did express a view that 20 was enough.

Q. Do you recall views being expressed, either by Mr. Thomas or any other senior officer at TWA to the effect that it would be desirable not to over-commit TWA for a jet fleet until it could be ascertained useful and profitable, they could be operated, what improvements might be [Dep. Tr. 627] made, and subsequent models of jet aircraft, until after more experience had been gained as to their operation, or words to that effect—I mean thoughts to that effect?

A. I don't think any of us wanted to over-commit. It was a question of how we viewed over-commitment. For example, I recall Mr. Cocke taking quite the opposite views, as I recall it at least, he wanted 30, but I believe that both Mr. Thomas and Mr. Leslie did on occasion express the view that was stated.

Q. Do you recall the matter being seriously discussed at committee meetings or board meetings?

A. Not as to a decision process at all. As I say, I was advised that it would be 20.

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[Dep. Tr. 656] . . . Q. You considered the 990 type of aircraft so different from 880-M?

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The 880-M, by the way, is just an 880 with some modifications to it? What is the difference between the 880-M and the 880?

A. There were several 880s. There was a group of 880-Ms initially manufactured to Capital Airlines specifications, as I recall. Additionally, at one point we received a proposal from Convair for the manufacture of new 880-Ms, built substantially in compliance with the TWA 880 specifications, or Hughes Tool 880 specifications, if you like.

[Dep. Tr. 657] The salient or, I would say, significant differences that I recall between the 880-M and the 880 as types, setting aside for the moment detail differences that would come out of a direct comparison of specifications, but looking at only those items that are the same, the 880-Ms had leading edge devices on the wing which were slots and slats to improve the airflow during takeoff primarily and to some extent the smooth airflow during some of the approach conditions. As I recall it now, Convair had an airflow problem at one point, and they thought this might help it.

The 880-M I believe was offered with more fuel capacity and a somewhat higher rated engine in terms of power output, but I don't recall that difference being other than a transient one. That is, the 880 would finally catch up with it through engine modifications.

Essentially, but broadly speaking, the 880-M was closer as a type by far to the 880 than the 990 was.

Q. Were those differences that you have described sufficient to require a classification of that aircraft as a different type of aircraft for fleet operations? In other words, from the point of view of TWA, and the problems of operating an air fleet, are those differences which you have described such that you would categorize an 880-M as a different type of aircraft than an 880?

[Dep. Tr. 658] Mr. Williams: He didn't do so.

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Mr. Davis: Please. Yes, he has, in effect, because earlier I asked him to identify the three types of aircraft in the fleet, and he said "What we were talking about was the 990, the 880-M and the Caravelle," and I am asking him now to explain what the difference is between the 880-M and the 880, which they already had in their fleet.

Mr. Williams: All right.

Mr. Davis: You will have an opportunity to cross examine him.

Mr. William: I only want the question to be clear. I have to understand it too.

Q. Will you try to answer my question, Mr. Rummel, so that I can understand the nature of the problem of an air-carrier when procuring additional aircraft and integrating additional aircraft into an existing fleet?

A. When we considered the 880-Ms that had been procured for Capital we had to recognize the differences in configuration between that airplane and the 880s that we were receiving, and by configuration I mean in this case the differences in systems, in cockpits, the items that I discussed heretofore. We tried to estimate the cost of standardizing those things which it made sense to standardize economically.

[Dep. Tr. 659] As I recall it, we looked at the estimate of the added cost of training pilots on the basis that we would not standardize the airplanes to see how that would come out. We looked at the costs of standardization and the cost of pilot training if the airplanes were standardized, and we compared the two. We took the added training costs over whatever it was, probably a five year period, and so on.

In other words, we tried to determine by analysis and estimating techniques the cost of adding this additional group of airplanes.

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Now, I use the word "type" loosely, I guess, Mr. Davis. I think an 880-M is a different type because this designated a different type, and in this case it in fact was quite different from the 880s that we had.

The figure that comes to mind, and I can't be certain of this, was that the total estimated cost for mods, and it was a loose estimate in some respects, I think was a little less than \$200,000 an airplane, but I am not completely sure of that. But this would indicate to some extent the differences, but in arriving at that we didn't totally standardize. We tried to standardize things which had economic or cost significance, or safety implications, so to speak.

Since the 880-Ms were different from what we had, and since they were being considered as to advisability of [Dep. Tr. 660] procurement, we viewed this as an additional type.

I am repeating somewhat, but we set out to determine how well it could be integrated with what we had, or if not, then what the added cost would be.

I might say we also considered the effects—I am quite sure now, I don't recall specifically, but it would have been certainly natural to consider the revenue loss from time out of service and items of that character.

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[Dep. Tr. 874] . . . Q. Do you recall whether or not you discussed this report or study with Mr. Hughes?

A. No, I do not. We certainly discussed—I certainly discussed these airplanes with Hughes from time to time. Whether I specifically discussed this study, I sure couldn't say this many years afterward.

Q. Do you recall whether or not there was any discussion within the TWA management group or with top management at TWA relating to the subject matter of these recommendations?

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A. No, I don't recall any. I remember making it a point to try to keep people like Mr. Collings, Mr. Damon, advised of pertinent equipment developments, that is, to try to place the airplanes in perspective as we saw them from time to time.

It certainly is not at all impossible that this report was issued, but I don't—I simply don't recall.

Normally reports that were issued were either issued in draft, but were normally fully approved reports.

Q. That is only what TWA has furnished to us, Mr. [Dep Tr. 875] Rummel. I don't know.

Let me ask you, normally, such a report, when prepared, would it be submitted to Mr. Hughes, or would it be submitted to the top management people at TWA?

A. Well, the report would not be submitted to Mr. Hughes as such. Mr. Hughes had some rather strict instructions about submitting anything of printed material or in writing or anything of record to him, and it was on only extremely rare exceptions that it was broken.

The standing rule was not to send things to Mr. Hughes but rather to discuss it on occasion with him.

Q. So you would ordinarily discuss with Mr. Hughes the result of reports or studies undertaken by your department?

A. From time to time we did. We tried to be responsive to his questions.

Occasionally we would undertake special studies in order to answer his questions.

This could have been such a study, Mr. Davis, but I simply don't remember if it was or not.

Q. I appreciate that. I am only trying to establish the fact that such a report would have been prepared in this

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form for consideration or use by TWA's management group.

[Dep. Tr. 876] A. Well, reports are written in a good many different forms as such. We didn't have, as I recall, a particularly standard form.

The reports were more or less tailored to what we were—what the occasion called for.

Q. Look at Defendants' Exhibit 157. You see the paragraph beginning, "In discussion, and based on a more normal traffic growth and assuming TWA continues with its plan to acquire 30 Convair . . .," and let's stop at that point.

At that time, namely, about August 1956, Mr. Rourke was aware of a plan of TWA to acquire thirty Convair 880s?

A. Well, that is the way he would have put it in any event, Mr. Davis. We never had the practice of including Mr. Hughes' name in our internal documents.

* * * * *

[Dep. Tr. 890] * * * Mr. Hughes had a very keen interest in the design characteristics, features of the airplane, the estimates of availability, and, as I said, participated personally in a number of these meetings.

The meetings I am referring to were held intermittently and irregularly. It was when Convair had something to present, then a meeting would be held. They were held in all parts of the country, and this certainly is not exact, but I suppose not oftener than once every four months. But it wasn't on any specific schedule. But that was the order of the activity with respect to the review activity.

I received a call or calls from Hughes, and here I have to deviate some from the Convair situation in order to

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cover the Convair situation, during 1954, I don't remember the exact time of the year, but I think during the summer, possibly toward the fall, with respect to the 1449-A, which was a turbo-propeller airplane that he had been discussing with Lockheed.

We got into a negotiation with Lockheed on that [Dep. Tr. 891] airplane, and it was finally ordered by Hughes. As I remember, it was December 23, 1954. I am quite sure, at least, it was December 23rd.

Well, this particular project ran into difficulties. This was one I mentioned earlier that I had recommended against and the TWA preference at the time, as I had understood it, was for the DC-7C. The reason I was opposed to it, and tried to prevail with Mr. Hughes, was that I felt that it was an uneconomical airplane.

Since I am really trying to get back to the Convair situation, let me summarize this, and if you want me to, I can try to fill this in later on.

In any event, Pratt & Whitney withdrew the turbo-prop engine, and Lockheed was prevailed upon to put in a Wright engine or decided to put in a Wright engine. It became the 1549-A, and then later became the 1649-A, and that airplane was delivered in quantity to TWA during the Burgess regime in 1957.

It was during the—that negotiation, that is, as I recall it, the resurrection, if you like, of the 1649-A out of the 1449-A debris, that work began in earnest at Convair on the development of the model 18. I recall this because I was on the West Coast at the time, and was asked to conduct the two negotiations simultaneously, to keep [Dep. Tr. 892] the Lockheed negotiation going, and to undertake negotiation with Convair for the model 18.

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I might say, the model 18 was not the model 880. It was a larger predecessor generally similar to what Boeing finally built, but at that time believed to be somewhat better than either Boeing or Douglas' offering, and to explain that I perhaps should say that my recollection is that at that time Boeing and Douglas were both offering domestic jets, and had not taken the step to international jets, where we were seeking, Hughes and I, to get an airplane that could serve both areas. I think I viewed all these efforts as representing TWA's best interest, and I certainly wasn't aware of any conflicts of interest.

The model 18 development spanned quite a period of time, during which specifications and contracts were developed. I reported to Hughes from time to time. I was cautioned not to discuss this with TWA management on numbers of occasions.

Mr. Hughes, however, knew and understood that I was bringing in TWA experts from time to time to aid and assist in specific areas.

Now, I am not saying that each and every person was cleared. I think he had that confidence in me. [Dep. Tr. 893] He simply knew that I was doing this because I would ask if this would be quite all right, and he said on a limited basis, certainly, but keep the group small, as I recall it.

Hughes had numbers of discussions with Convair or let me say Convair reported he had had such discussions and while I can't be specific, I am quite sure that Mr. Hughes mentioned it a time or two.

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[Dep. Tr. 896] Mr. Hughes showed fairly keen interest over the phone, as I recall it, in the double-deck airplane. I at the moment do not recall Mr. Hughes seeing

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the actual layout, but there could have been a meeting along this line.

This got to the point where Convair did become interested, and the project, as far as I was able to determine, had the support of the San Diego management, at least it had that support to the extent that it presented the plan for building this airplane to the General [Dep. Tr. 897] Dynamics board, or at least it was so reported to me.

The board, as I indicated earlier, turned it down. The only explanation that I recall is that it was simply too much to undertake, and also that to undertake a big jet at that time, with Boeing and Douglas moving forward, and having already captured orders, did not make too much sense, because while all this was going on at San Diego, the delivery positions toward the end of this operation were in fact being snapped up by our competition at Boeing and Douglas.

Now, it was during part of this that we—I say “we”; it was a discussion with Hughes now that I am referring to—gave consideration to the need for TWA having jet aircraft, at least contemporaneously with our competition, and preferably before. We had not been unmindful of the time it would take to develop airplanes, but the emphasis was on developing these newer airplanes, and it became very clear that serious consideration should be given to procuring Boeings or Douglasses.

Now, Boeing had a distinct advantage, in my view, in two areas. One was the background of experience in building big jets, and the other was that they had a significant lead over Douglas in initial production.

Negotiations were undertaken with respect to [Dep. Tr. 898] holding delivery positions, and some change, as I recall it now, in specifications and preliminary contracts with

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Boeing in this period, and this finally led up to procurement of the eight, I think it rather quickly became nine 131s.

Hughes and I had discussed this in light of a hedge. This would get us in the business, permit us to—that is, “us,” TWA—to at least have a toehold until this bigger, better airplane could be produced, if ever. I remember we also discussed ultimate use of the 131s along the line, well, maybe it could become a sky coach airplane.

[Dep. Tr. 899] Now, during this period I was trying to influence Hughes to go the Boeing route, particularly the latter part of the period, because while I was highly interested in TWA having the best airplanes that could be built, it became very obvious that we would have to move.

Otherwise a significant gap in time would exist between when our competitors had airplanes and we would. It was also during this period of time, not as a constant thing, but it was interwoven, during this period of time that attention was given to a development by AVRO. This was a large, as I remember it now, six engine airplane designed for low supersonic speed cruising.

By that I mean it was a fairly slow supersonic airplane that would cruise, I think, between 900 and 1200. I don't recall the exact figure. Miles an hour that is.

It was during this period of the model 18, model 19, and model 20 at Convair, after the General Dynamics board pulled the plug, so to speak, activity at Convair, on my part, at least, pretty much ceased.

We went to work more in earnest with Boeing, reviewing specifications, and I will get to the Boeing story, there were numbers of discussions and a few meetings in Beverly Hills, a couple in San Diego and so on, I received a call from Mr. Hughes advising of the development of the 880 [Dep. Tr. 900] proposal by Convair. He asked that I review it. He

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described it briefly. He advised that Convair would be getting in touch with me.

The thing that sticks in my mind here that recalls this is that I had another commitment which prevented my seeing the Convair people right at that time, but it turned out that I saw them anyway, but under conditions somewhat different than had been planned. They chased me from Kansas City to Seattle, and we met at Seattle, and I believe this is the first time that the 880 was reviewed by myself or Rourke.

It was considerably smaller than the airplanes we had been working on. This was in the winter, I think, between 1955 and 1956, but I don't recall what month. I think fairly late in 1955.

We, as I recall it, were not particularly favorably impressed with the 880, and tended to favor, from TWA's point of view, placing a larger Boeing order. However, we continued to work with Convair.

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[Dep. Tr. 959] * * * Q. I am confused only in this respect, Mr. Rummel. Looking at Exhibit E, you see "Assuming medium range operation of nine 120s in conjunction with the following fleets," so the eleven appears to be something in addition to the nine, and therefore my question still remains as to where did the eleven come from.

[Dep. Tr. 960] A. I couldn't say. I see what you mean all right, I think, but I couldn't say where the eleven come from. At one point, as I recall it, eleven were ordered by Hughes Tool. Now, whether this was being thought of as an order for eleven in addition to the nine, or whether the leading sentence was simply poorly constructed, I don't know, Mr. Davis, I just can't tell you that.

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Q. Have you given us your total recollection as relating to the placement of an order for eighteen 331 Boeings on or about March 1956?

A. I have already touched on circumstances relating to the placement of the order of eighteen from time to time in prior testimony. I think I last said that the development of the contract in detail and the specification was to some extent conducted concurrently with the development of the contract and the spec for the 131s, and that the 331 order was actually placed by Hughes a month or two following the placement of the 131 order.

The 331 at that time was viewed as a more permanent type investment than the 131, and as I recall it, the order for the 331 was placed following the breakdown in negotiations at Convair for the models 18, 19 and 20.

However, at the moment I don't recall but I am quite sure that the project Mexico City, which was the [Dep. Tr. 961] AVRO, and the project Greenland were still active.

Now, the project Greenland may have become active after this. This was the project that I had referred to earlier, perhaps not by the code word, but as, to identify it, as the one that involved the filing in Washington with respect to—that is, before the CAB, as I recall it—with respect to Hughes obtaining permission to build airplanes for TWA.

What I am trying to pin down, though, in mind, and I guess I am doing a poor job here, is whether at the time the order for the eighteen airplanes was signed we might have abandoned the AVRO, but I don't think so. The reason I don't think so is that the order for the 300 engines bore a relationship to either the AVRO or an AVRO-like project.

As I recall it, the order for the engines was placed before we went firm on the 880. At the moment I can't recall whether it was after we placed the order for the—well, no,

Rummel—Deposition

I guess—well, I am not certain of my recollection, but it probably was after the order was placed for the 331s, but it might not have been.

I realize I may be being a bit confusing. I am trying to recall out loud probably what I ought to think through before I speak. Let me give you a reference that [Dep. Tr. 962] would pin this down more, and that is this, that the thing that initially brought about the placing of the order for engines with Pratt & Whitney was the fact that Pratt & Whitney had announced a price rise—as I recall it, it was 5 per cent—in engine price to the industry. This had been announced a number of months before it was effective.

The down payment required to be made for Pratt to accept the order was also, as I recall it, 5 per cent, or thereabouts.

Since engines were generally in short supply, at least during the initial period, or it was thought they would be, because everybody, Douglas, Lockheed—excuse me—Douglas and Boeing, was clamoring for engines, and engine availability, as I recall it, was pacing the availability of the airplanes, since they were in short supply, it occurred to me that it would be a good move to order our spares and save the 5 per cent, because if we didn't order we would lose 5 per cent, but the worst that could happen, if we ordered and then something occurred so we didn't fulfill the obligation, would be to lose the 5 per cent down payment.

On the other hand, they were in short supply, and it seemed to me that it wasn't a bad investment.

The date would help bring this in focus. This is [Dep. Tr. 963] a date which I am sure could be found somewhere. the price rise, the effective date of the price rise.

Now, I went to Hughes and saw him personally at this time. As I recall it, I had mentioned this engine problem, the proposition, on the phone earlier. I had occasion to see

Rummel—Deposition

him—I think it was in the Beverly Hills Hotel—along with a chap from AVRO, and I took the opportunity to point out that we had a deadline on the engines, that if we were going to move, and he wanted to save this 5 per cent, and I thought he should, that we—he should be moving, and he at that point authorized me to negotiate with Bill Gwinn.

As I recall it, the instructions weren't specifically limited to talking to Bill, but dealing with the top people at Pratt & Whitney. But the idea was to obtain assurances of delivery positions, as I recall it, without actually ordering, and to obtain premium delivery positions.

Now, at this same time we were—well, this would help fix the date—as I recall it, we were still jockeying for delivery positions to some extent with Boeing, and certainly it was a factor in the AVRO consideration, so that we—in any event, let me say, Hughes wanted the earliest possible positions that he could get.

I undertook a telephone negotiation with Gwinn, [Dep. Tr. 963A] asking that, in effect, that positions be preserved, but that we put off the day of formal commitment.

[Dep. Tr. 964] In the end, and it was some time later, a substantial order for spare engines was placed for the JT4, far in excess of the 60 that represented our estimate for the number that would be required to go with a fleet of eighteen, and for I believe 40, if I recall correctly, JT3s.

I might say the reasonableness of these numbers against the size of the fleet went like this, that if TWA obtained all of the airplanes, then it would need these engines. If another airline with somewhat comparable routes obtained the airplanes—I am not suggesting that this was a specific plan; I am just saying this was the reasonableness of it—that in that event, then it would probably require the same number of engines.

Rummel—Deposition

Now, if the fleet somehow became split between airlines, and were operated as two groups, or three or four, then reasonably the number of spare engines that would be required, I must say all things are not equal, but as a reasonable thing the total number of spares in that event that would be required would be greater than that which would be required for one airline and one fleet. But in any event the orders were finally placed.

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[Dep. Tr. 1129] . . . Q. These are the only notes of yours which have been furnished to us, Mr. Rummel, and I would like to put to you a question I put to you earlier today, and that is, is it your recollection that these notes reflected by Defendants' Exhibit 160 are the only notes of yours of which you are [Dep. Tr. 1130] aware, which relate to your activities at TWA, involving aircraft acquisitions or procurement?

Mr. Williams: Now in existence?

By Mr. Davis:

Q. Now in existence.

A. I don't know what is in existence. All I know is that we tried to turn over every bit of information that we had, and I assume that the files were thoroughly combed by all concerned. There is no doubt as we went through the years I wrote more than this.

Q. Do you have any recollection of destroying any notes throughout the years, or cleaning out the files?

A. Not particularly. I am quite sure that some of the dead deals, rather than have things laying around with Hughes' name on, I may well have thrown things away. I don't recall any specific instances of that, but probably I did in some cases.

Rummel—Deposition

Q. I am interested in the fact that the notes, the only notes we have, are the ones which relate to the Convair and 880, and I am wondering whether it was your practice to maintain comparable notes with respect to other procurement activities or negotiations.

A. Hughes had the long-standing, and quite often repeated instructions not to make notes, not to have records [Dep. Tr. 1131] of any kind of what went on between us or between he and TWA.

Most of his deals were considerations or prospective undertakings, and were cloaked in various degrees of secrecy. This became almost a standard practice, I would say.

A lot of the notes that I made I am sure didn't bear Hughes' name at all, and sometimes they were of such a nature, and deliberately so, that others on reading them would not have the vaguest idea of what they contained, but they meant something to me.

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[Dep. Tr. 1342] * * * Q. I didn't mean to interrupt you, I am interested in how that meeting came about, and—

A. It was called by Mr. Hughes.

Q. This was on the subject of the performance characteristics of the 1449A?

A. That's my recollection, yes.

Q. Please proceed.

A. Before all this got under way, that is, before the negotiation became advanced, we had analyzed the DC-7C and other airplanes that were being considered, I believe including turbo-prop possibilities of the Constellation, and had recommended that TWA procure the [Dep. Tr. 1343] DC-7C. The DC-7C was a DC-7 with more wing and more fuel capacity. It may have had a fuselage one seat row

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longer than the DC-7, but I don't recall that at the moment. This recommendation had been concurred in by Mr. Damon and Mr. Collings, and I am quite sure had been passed along to Mr. Hughes.

It may have been this recommendation that sparked the negotiation at Lockheed, but I don't recall specifically that that in fact was the case.

But in any event, the Lockheed negotiation started about this time, or shortly thereafter, for the 1449A.

I recall on numbers of occasions advising Mr. Hughes that the 1449A, in my opinion, was uneconomical, and that it was a poor risk, that I didn't feel we had reasonable technical assurance that either the engine or the airplane, but my main worry was the engine, could be reasonably expected to produce the fuel consumption characteristics that Pratt & Whitney was claiming for it and that Lockheed was relying on.

At one point we looked at wing tip engines on the 1449A and found that with normal operating practices, as I recall it now, the airplane could only fly non-stop about halfway across the continent. That was with the tip engines on.

[Dep. Tr. 1344] I simply point that out to avoid confusion. We also, as I recall it now, looked at operating these tip engines part way across to get a speed boost and cutting them off and letting them fly along for the ride. We looked at all sorts of possibilities.

Mr. Hughes seemed determined to move forward with the 1449A. At one point I recall risking his anger by raising the question as to whether or not he wanted a vehicle with which TWA could make money. I realized there could be other considerations.

He indicated that he certainly did want airplanes that TWA could make money with, and that he recognized there

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was a difference of opinion between TWA and Lockheed on the merits of the airplane. I tried to dissuade him from moving forward with the 1449 because I did not believe it to be a worthwhile venture for TWA, and certainly not in comparison with the DC-7C.

[Dep. Tr. 1345] There was an additional meeting, as I recall, at Lockheed attended by Mr. Damon, I think Mr. Collings, myself and Mr. Rourke. As I recall it, Bob Gross, Kelly Johnson, possibly Courtlandt Cross, Leonard Schwartz, and I think a few others, were there for Lockheed.

This was arranged before by Mr. Hughes in order for Lockheed to convince TWA that the airplane and one that they should be fully interested in, and possibly additionally to resolve some of the technical positions that we were apart on, but I don't remember that particular aspect being front and center at that time.

The 1649—I am sorry—the 1449A contract was signed by Hughes Tool—well, let me say, I didn't see anybody sign it, but it was wrapped up for signing. I guess I am not sure whether it was signed in California or Houston, but at least the signatures authorized on December 23, 1954, I think. I think it was December 23, 1954.

The meeting on December 23rd took place in the evening at the Beverly Hills Hotel. I recall that Raymond Cook, Mickey West, myself, I believe Harry L. West, were present, and I believe—well, I am certain the principal Lockheed representative was Leonard Schwartz, and I am sure there were a few others there.

[Dep. Tr. 1346] I believe one was Kirk Yost, but I am not absolutely positive. We were in a largish green colored room downstairs.

Rummel—Deposition

It was some sort of a dining room. I forget what it was called.

Lockheed had the long paneled room on the other side of the building downstairs, and Schwartz was running from that meeting back and forth, conferring on various points with his people and then reporting them to Mr. Cook, who had the lead, as I observed it, in closing the deal.

I continued to try to prevail with respect to my views on the worthwhile nature of the airplane throughout the negotiation, and continued to do so that evening. As I recall it, at just about every opportunity and every free moment I tried to convince Mr. Cook, to some extent Mickey West—I say “some extent” because he was fairly new; I think that’s the only time I saw him in relation to this particular deal—and I recall that at one point toward the end of the evening Mr. Cook was talking to Mr. Hughes, presumably either about the deal or the effect of the deal on the Hughes Tool cash position, or other considerations with which I was not directly involved or concerned, but Ray, knowing my long-standing feeling, [Dep. Tr. 1347] urged Mr. Hughes talk to me, he had asked that I stand by, and after this was said several times through the course of the conversation, at the close of the conversation Mr. Hughes did talk to me, and I remember advising that I felt it was a poor bet—I don’t recall my exact words—that it was an airplane which I felt was exceedingly risky and one which, from all that I could see, even at that stage, would simply be an uneconomical undertaking.

As I recall it, Mr. Hughes indicated that he felt that Lockheed would do a pretty good job, that he felt that Lockheed would do a better job than the papers indicated, and something to the effect that if they did not they would certainly lose a long-standing customer, or something to this effect.

Rummel—Deposition

I think he mentioned that he had an agreement with Lockheed—I don't recall what it was—either on the weight of the airplane, or some such thing, that he felt would improve the outlook.

I assume this was verbal. At least, I never saw it later, and it didn't come up again.

I did my best at that time to make it clear, at least as far as I was concerned, as a professional opinion, if you like, to Mr. Hughes that this was not the way to go, either for TWA or himself. However, the papers were [Dep. Tr. 1348] signed.

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[Dep. Tr. 1443] . . . By Mr. Davis:

Q: The part that I particularly want to call to your attention, you note Mr. Tillinghast was referring to what transpired at a meeting of the executive committee of TWA, in the course of which he referred to discussion relating to the 1649A situation.

At page 6550, Mr. Tillinghast says:

"My recollection, Mr. Davis, is that I raised the question of whether there might be a specific complaint related to the 1649As based on discussions I had had with Mr. Rummel, during the course of which he had told me that he had been very, very much against the 1649; that he had thought the ship would turn out to be a poor one and an uneconomic one to operate, and that this had become true, and that he could never understand how Mr. Hughes had bought the 1649s."

Then he goes on to say:

"As I recall the meeting . . ." the meeting of the executive committee ". . . both Mr. Leslie and Mr.

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Cocke said that we had better not complain about that because at least part of the management of TWA had been very anxious to get the 1649s, and that this was far [Dep. Tr. 1444] from a one-sided situation."

Now, I understand your testimony about your feelings from your point of view about the 1649A, whether it developed at the time of negotiating with Lockheed or disappointment that developed subsequently.

What I am interested in now, Mr. Rummel, is your identifying and describing that part of management of TWA which may have reflected a desire to obtain 1649s, if any, or if you know of any.

A. Yes. Well, as I said the other day, the company management felt that it needed additional aircraft and that it should have an additional aircraft to satisfy traffic needs. The preference as to type of aircraft was that we wanted the DC-7C. I remember specifically Damon and Collings and myself feeling strongly that way.

I think Damon and Collings accepted the recommendation that I had put forth to them along that line.

I believe that Mr. Cocke also felt that way, but I don't recall that as clearly as I do with respect to Damon and Collings. I don't remember what Leslie's attitude was, if he had one on that particular item.

We evaluated the DC-7C in relation to the Lockheed airplanes that existed, and as negotiations continued, through Hughes' efforts, as I recall it, the 1449A was [Dep. Tr. 1445] finally brought out as a proposal, and his negotiations concentrated on that.

I already explained what happened to the 1449A, how it became, as a proposal, at least, the 1549, and finally the 1649A.

Rummel—Deposition

By the time the 1649A rolled around, which was, or came into being, let's say, which I think was in the spring of 1955, thereabouts, the delivery potentials that we had contemplated as being available for the DC-7C were not there.

Douglas had been quite successful in selling that version to numbers of airlines. At that time there was a delivery advantage of going to the 1649A route.

As I recall it, it was the feeling on the part of a number of people, and I suspect this included Mr. Cocke, I am not certain about the others, but they definitely wanted to move forward with the 1649A in order to have airplanes for the summer season of nineteen—well, so they would have airplanes as soon as possible and before the DC-7Cs.

I don't remember what the original delivery schedule was at the moment on the 1649A. I think they were finally late in being delivered.

Just how this word got to Hughes, if it did, at that [Dep. Tr. 1446] point, I don't know. But that would be all that I recall with respect to anyone wanting the 1649A. It was simply, as I recall it now, there wasn't much other choice if we wanted airplanes; it then at that point had to be 1649As or miss a season's airplanes.

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**Excerpts from Transcript of Deposition of
Charles C. Tillinghast**

[Docs. 210-222]

[Dep. Tr. 4427] [Mr. Sonnett] . . .

Now, as to where Mr. Hughes may now be, the record is replete with statements by Mr. Davis, by [Dep. Tr. 4428] Mr. Cook, and by Mr. Holliday—I have the record references here—statements made in this proceeding, in which Messrs. Davis, Cook and Holliday disclaim any knowledge as to where Mr. Hughes is.

In the record before the Special Master it is established that there is at least one address to which mail is customarily sent by people who are trying to reach Mr. Hughes, and that is 7000 Romaine Street, the communications center.

The Special Master will recall that at one time I wrote Mr. Hughes a letter there asking whether he would be prepared to accept a subpoena.

I also sent copies of that letter to the Beverly Hills Hotel and to the Hughes Tool Company in Houston, Texas. I had a reply from Nadine Henley saying that she picked up the mail at Beverly Hills, and she wasn't currently in touch with Mr. Hughes, but would bring the matter to his attention when she heard from him.

[Dep. Tr. 4429] The Master will recall that pursuant to his direction Mr. Davis wrote to Mr. Hughes, in which a certified copy of the order for production of documents was forwarded. That letter went to 7000 Romaine Street, but so far as I know, Mr. Davis has not yet informed us whether he had an answer to that letter. If he has it, I would like to see it. It should be made a part of the record.

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Finally, there is now evidence that Mr. Hughes himself in financial transactions has used and designated 7000 Romaine Street as his mailing address. He did this in a promissory note when he borrowed \$11 million from the Bank of America, according to documents recently produced.

So that our problem is not an easy one, and it seems to be a problem which Mr. Davis and Mr. Cook and Mr. Holliday have had as well as counsel for TWA. With that in mind, we constructed these interrogatories so as to ascertain under oath the information that officers, directors or attorneys of Toolco may have concerning where Mr. Hughes was in the 30 days preceding the expected date of the answer to the interrogatories, where he was or will [Dep. Tr. 4430] be on the date of the answer, and where he is expected to be, so far as they know, in the period up to July 1st.

* * * * *

[Dep. Tr. 4432] * * * The disclosure of information as to where Mr. Hughes can be served therefore is an essential prerequisite to our carrying out that program; and I would therefore urge that the Master direct that the answers to these interrogatories be made very promptly, the interrogatories themselves having been served on May 2nd.

I think that completes what I have to say, unless you have some questions, Mr. Rankin.

The Special Master: Any other party other than the Tool Company care to comment on these motions for interrogatories?

Mr. Davis?

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Mr. Davis: It is quite apparent, Mr. Special Master, that counsel for TWA is still trying in one way or another to change or upset the priority for the taking of depositions which has been established, may I say repeatedly, by the Court.

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[Dep. Tr. 4437] . . . I am quite conscious of the fact that the Special Master did rule that TWA might serve interrogatories upon the Tool Company relating to the location of Mr. Hughes. Now we must examine what those interrogatories are and whether or not they are objectionable.

I have tried to follow the amendments and [Dep. Tr. 4438] correction that Mr. Sonnett expressed today.

Before I go to that, let me add one other factor. Mr. Sonnett has made a rather full statement of alleged difficulties that he has encountered. I don't question anything that Mr. Sonnett has said. But those seem to me again statements of fact, and it seems to me statements of fact which are not before us, or if they are before us, I would like to have them in some form which I may be permitted to address myself to.

I don't believe it is relevant, really, to the issue.

The issue is, and I submit primarily, whether or not or the extent to which TWA at this time is to be permitted to interfere with the Tool Company in its efforts to conduct its discovery proceedings in an orderly fashion, and permit at the same time what amounts to a simultaneous or contemporaneous discovery proceeding conducted on the part of TWA directed to the Tool Company.

Tillinghast—Deposition

I respectfully submit that from the decisions that we have had to date that is not what the rules contemplate, nor what is proper or orderly.

Mr. Sonnett refers to the fact that the [Dep. Tr. 4439] rules, new rules, will come into effect in July. So be it.

The Special Master: Mr. Davis, before you leave that point, I wish you would tell me anything you know about the law that supports your position that interrogatories cannot be developed and ordered when a priority with regard to discovery in the taking of depositions is granted by the Court.

I found no decisions to that effect. In fact, I found cases directly to the contrary, that interrogatories could be addressed to the parties at the same time that there was a priority established concerning the taking of depositions.

Mr. Davis: Mr. Special Master, as you may recall, I was engaged in Washington before the CAB at the time that this matter was argued here, and it is my understanding of the cases, but I may be wrong, but it is my understanding of the cases that interrogatories, written interrogatories, are a form of discovery procedure, and the Courts have so recognized it, and it is also my understanding that in this district, at least, without Court permission and a special showing to justify the serving of interrogatories, it is regarded as an interference [Dep. Tr. 4440] with the discovery proceeding which a party may be engaged in, and the Courts have held, absent permission by the Court, that an opposing party may not independently engage in discovery proceedings addressed to the person who is actually

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engaged in discovery proceedings, and I believe there is authority to that effect.

The Special Master: If you can find any—

Mr. Davis: I would have thought it would have been submitted to you for consideration in connection with the memoranda that was submitted in opposition—

The Special Master: If you can find any such authority, I will give you until Friday morning at 10 o'clock. The cases I found were to the effect that this was under an entirely different rule from the provisions as to discovery otherwise, and also in regard to taking depositions, and that it was independent and could be proceeded with at the same time.

I think that is a very important legal proposition as far as your position is concerned, and I wanted to inquire, without interrupting you any more than necessary, as to what support you might have for the position.

[Dep. Tr. 4441] Mr. Davis: I am not in a position to refer you to a particular case, Mr. Rankin.

It was or it has been my understanding, it has been my understanding, that a person engaged in oral depositions was not thereby precluded from also serving written interrogatories.

In other words, the mere fact that a party was engaged in the taking of oral deposition did not preclude him from also using other means of discovery proceedings.

But I am referring to my understanding of the practice, which I believe is supported by decisions—I may be wrong as to that, but it certainly has been

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my understanding—that while a party is engaged in discovery proceedings the other may not, during that period, commence its discoveries, be it by oral depositions or notice of the taking of oral depositions or interrogatories, without permission of the Court.

I may not be able to cite a case squarely in point on that. Certainly it seems to me that the reasoning underlying the matter would lead to that conclusion, even if we are to assume that this is a novel question.

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[Dep. Tr. 4453] • • • The Special Master: Mr. Davis, as I indicated to you before, the reason that I was willing to consider an application for the right to present such interrogatories was only so that when we reached the time that they were entitled to depose Mr. Hughes in the development of their case they wouldn't then have to try to find him.

If you could give me some help on that problem so that we could be assured, and I don't mean just by your promises, because while I have complete confidence in you and your promise I won't let you be in a position where you promise for Mr. Hughes in this particular situation.

Mr. Hughes has a right to at least at this time not allow himself to be served if he can avoid [Dep. Tr. 4454] it, and unless he put himself into such a position that I could rely upon it, representing the Court, insofar as being assured that we would have him with a service of the law so that he could be deposed at a certain time, then we have the problem

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of whether or not we shall arrive at the time for his deposition and have to go through the spectacle of the Federal Court trying to get an important witness in this case to depose in order to develop the truth that is necessary to the trial of this case, and I don't intend to have a Federal Court put in that position if we can avoid it under the law.

I mean no reflection of any kind on you or counsel on your side in this matter, but I do think we have to face up to that problem, and that is the only reason that I would allow this much interference with your priority action, even though I don't think under the law, as I understand the cases, that interrogatories have been held to be an interference, depending on how far they go and other considerations that are in the discretion of the Court.

Nevertheless, for the limited purpose of making sure that when this witness is reached in proper order he will be available to develop whatever [Dep. Tr. 4455] he can contribute to the case, that is the reason that I am interested in what you have to say concerning that problem.

Mr. Davis: My comments on your objections, Mr. Rankin, are these:

I recognize and have no objection to the Court, through you, taking whatever steps may be necessary in order to insure the availability of whoever is a proper witness in this proceeding. But let us look at the facts in a realistic manner, if I may suggest it.

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[Dep. Tr. 4456] . . . Mr. Hughes long ago, but following the decisions of the Court as to the priority

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of the taking of deposition, was informed as to the likelihood as to when he would be likely to be needed.

Counsel before Judge Ryan, in seeking—I am referring to counsel for TWA—before Chief Judge Ryan, in order to obtain the designation of a particular Judge, called that an important case, referred it to a case with which he had had personal experience, the Ford-Ferguson case, referring to, in that case, a deposition going on for four years, and, if my memory serves me correctly, indicated that he thought in this case the depositions would be—of all the parties—would probably be as lengthy if not lengthier.

That was a justification for the relatively unusual step of assigning this matter to a single judge.

The point I am making is that there is no emergency either for the protection of the Court or the protection of the parties to be able to serve Mr. [Dep. Tr. 4457] Hughes tomorrow or the next day.

Counsel by his statement, which I am sure is a well-informed statement, has indicated that Mr. Hughes, if his information is correct, was believed to have been a number of places, including outside of the country.

That is nothing so very unusual, and there is no reason or basis for believing that that will continue indefinitely.

I could understand the concern of counsel and of the Court, perhaps, if we were delaying or interfering with the rights of the parties to obtain information from a needed witness because he was not available to the Court. But that is not what is before us.

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I indicated to counsel for TWA and the Special Master that I have reason to believe that I will hear from Mr. Hughes in the reasonably near future.

I am not in a position of committing myself to a particular date, but I believe that, and certainly don't know of any fact that would tend to indicate that Mr. Hughes is not likely to be available whenever his proper turn arrives.

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[Dep. Tr. 4463] . . . Mr. Sonnett: Would the Master inquire of Mr. Davis whether he has had a reply from Mr. Hughes to Mr. Davis' letter of March 29, 1962, in which Mr. Davis, in a letter to Mr. Hughes, sent to Houston, Texas, copy to 7000 Romaine Street, copy to the Special Master and to counsel for all parties, pointed out that Mr. Hughes was familiar with the motion schedules already, and in which Mr. Davis said that in reliance upon Mr. Davis' earlier inquiries he had already reported on the record that everything had been produced, and nevertheless the Master had directed that the inquiry be made of Mr. Hughes, and enclosed a certified copy of the order, accordingly it was being forwarded, and Mr. Davis' letter concluded by saying "In order to fully comply with the request of the Special Master, I should be advised in [Dep. Tr. 4464] writing whether or not you have in your personal possession or control any documents described in the schedules attached to the enclosed motions.

"If you should have any such documents, they should be delivered to me promptly for production."

Tillinghast—Deposition

The letter was March 29th, sent airmail. I think it would be appropriate to ascertain whether or not there was a response, and if so, what the response was.

The Special Master: Mr. Davis, have you received a response?

Mr. Davis: No, Mr. Rankin, I have not received a response from Mr. Hughes. As I previously indicated, those familiar with the papers or files that might be regarded as files in his personal possession as distinguished from those that are in the possession of the Tool Company relating to the subject matter have all been produced. But I have not heard from Mr. Hughes.

Mr. Sonnett: With respect to Rule 4, I think Mr. Davis is overlooking the fact that the judges of the Southern and Eastern District, based on their familiarity with many so-called big cases, have seen fit unanimously to change a policy that was [Dep. Tr. 4465] judge-made here in this district for some years, and that is to take away the premise of Mr. Davis' entire argument, because when they provided in Rule 4 that from and after the 40th day after commencement of an action the service of a notice to take a deposition of a party or witness or the pendency of any such deposition should not prevent any other party from taking a concurrent deposition of any party or witness.

I think they knew exactly what they were doing. They were changing the rule of automatic priority in the so-called big case to provide for a new approach to a very difficult problem of judicial administration.

Tillinghast—Deposition

When they placed on counsel, as they did in that rule, an express duty for all attorneys to make every reasonable effort to stipulate as to the taking of all such concurrent depositions, the judges of the Southern District knew what they were doing. And when they said if the lawyers couldn't arrange it the Court would, they knew what they were doing.

The Court has given to Judge Metzner the responsibility for the entire case. He in turn has appointed the Master with complete authority over the [Dep. Tr. 4466] discovery aspects of the case, subject only to appeal to Judge Metzner.

It seems to me that the record is perfectly clear that Judge Metzner, when he devised the schedule quite awhile back, long before the amendment to Rule 4, that Judge Metzner then believed that we would have finished the deposition of Mr. Hughes by now. At least he specifically directed that we were to have started it in April of this year.

I don't think it advances the cause any for Mr. Davis to approach the matter as if Rule 4 had not been adopted. It was a very thoughtful and carefully planned amendment to the rule by the bench designed to eliminate problems just like the problems we have in this case on delay of discovery.

Certainly the judges believed that it would promote the purpose of Rule 1, just, speedy determination of controversies, to make this change, or they wouldn't have made it.

What we have run into, and it is perfectly clear, is a calculated tactic of trip, stumble and delay for over a year in discovery proceedings. So the premise of Mr. Davis' argument is invalid. The practical

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problems of locating Mr. Hughes are [Dep. Tr. 4467] obvious.

I don't know what better proof we need of the difficulty than the statements of Messrs. Davis, Cook and Holliday. Mr. Holliday, before the CAB, recently was asked the following question:

"Q. Mr. Holliday, the discussion we just had on the record about Mr. Hughes is or may be, that is, where he is or may be, do you know where Mr. Hughes is now?

"A. I have no knowledge at all as to where Mr. Hughes might be.

"Q. Do you know where he is in the United States?

"A. No, I have no knowledge at all as to where he might be."

The one point, it seems to me, that is overriding, and it is a point the Master has made, is that whatever Mr. Hughes' idiosyncrasies, he must be responsive to the process of the courts of the United States like anybody else, idiosyncrasies or no idiosyncrasies.

So far as the constant barrage and implication about publicity, I will make a proposal right now to solve the problem if Mr. Davis will undertake [Dep. Tr. 4468] to carry it out.

I will accept an affidavit signed by Mr. Glenn and Nadine Henley of their personal service of a subpoena on Mr. Hughes in this case returnable July 1st or at such date as you may fix or the Court may fix in lieu of the answers to these interrogatories.

I want the affidavit by two people who have been close to Mr. Hughes for many, many years. If he has some personal problem about people coming close to him who are strangers, that will resolve that.

Tillinghast—Deposition

I have no wish to embarrass the man, and I have not been giving statements to the press, contrary to the practice of Hughes Tool Company.

It is a perfectly simple solution to the problem, if they wish to follow it. All I want is an affidavit before a qualified notary public, I will supply the subpoena, of service of that subpoena on Mr. Hughes by these two people, and I will take their word under oath, and the entire problem is resolved.

I don't know what else I can do. That would be the easy way to do it. I am not even suggesting that I want to send a U. S. Marshal in to do it. That can be done very easily, very privately, and very quietly, if they wish it to be done that way.

[Dep. Tr. 4469] Otherwise it seems to me there is no alternative except to use the process of the Court, which we are using here, I submit, very properly and correctly.

As to Mr. Holliday, Mr. Holliday is in default. Under the rules, his answer should be stricken, or such other terms imposed as the Master may deem proper. I gather from the papers that there may have been some oversight on the Holliday aspect, and certainly I have no desire to seek any forfeiture. As to our Holliday motion, I would not object to a disposition by the Master to the effect that if Holliday does not answer the interrogatories within a reasonable period of time, say by Friday this week, that his answer then be stricken.

Mr. Davis: I take it that Mr. Sonnett is now addressing himself to his motion with respect to the interrogatories addressed to Mr. Holliday. As my letter to you, sir, copy to counsel, indicates, it was

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an inadvertent oversight on the part of counsel for Mr. Holliday not to have had the objections that were made apply equally to the interrogatories addressed to Mr. Holliday, at least to the extent to which they would be applicable.

[Dep. Tr. 4470] The position on behalf of the Tool Company or Mr. Holliday—after all, Mr. Holliday is an officer of the Tool Company, and the interrogatories addressed to the Tool Company were broad enough to cover all officers of the Tool Company, including Mr. Holliday—is substantially as indicated by the papers before you, sir.

First of all, I wish to call to your attention that leave was sought merely to serve interrogatories upon the Tool Company, and the permission granted was permission granted to serve interrogatories upon the Tool Company. I am not going to suggest that that justifies the inadvertency of the oversight, because those would have been simply two additional points that we would have made.

However, I appreciate Mr. Sonnett's candor when he refers to the testimony of Mr. Holliday under oath in the CAB proceedings, during which time a representative of the Cahill firm was present throughout, or substantially throughout those proceedings, and he has his answer. To the extent to which the interrogatory is genuinely designed to elicit what Mr. Holliday knows, Mr. Holliday has answered that under oath. Mr. Sonnett did not give the date [Dep. Tr. 4471] as to Mr. Holliday's testimony before the CAB.

Do you have it, John?

Mr. Sonnett: I don't have the date of it, but let me say—

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Mr. Davis: It was subsequent to the time the interrogatories were served.

Mr. Sonnett: To dispose of that point that Mr. Davis is making, the CAB isn't in this case, neither is this case in the CAB proceeding. We are entitled to an answer. If that is Mr. Holliday's information, let him give it under oath here. All he has to do is sign and swear to it.

Mr. Davis: The point, Mr. Rankin, is obviously that the objection that we are asserting is not a desire to deprive TWA of information to which they are entitled. It is perfectly apparent if Mr. Holliday under oath in the CAB proceeding did not know or answered as he did, that that would be the same answer he would give to the interrogatory if his counsel sent the interrogatory to him for the purpose of answering it. To be sure, the question was not phrased to information and belief, or whatever it may be. The point is what we are here objecting to is basically what we previously indicated with [Dep. Tr. 4471A] respect to the interrogatories to the Tool Company, addressed to the Tool Company.

[Dep. Tr. 4472] Counsel for TWA clearly recognized by the procedure that he followed that the service of interrogatories was an interference, asked for permission to serve interrogatories upon the Tool Company, not upon Mr. Holliday. We believe that the interrogatories actually served upon the Tool Company are improper, even if it is concluded that TWA may interrupt in that fashion the discovery of the Tool Company in which it is currently engaged.

I recognize that if it is assumed that leave for the filing of interrogatories addressed to Mr. Holliday

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was not required, and that they were therefore properly served, that I as counsel for Mr. Holliday in this proceeding should have filed objections to the filing of those interrogatories before this, and to the extent to which the failure to include objection on behalf of Mr. Holliday occurred, I apologize.

The Special Master: I will overrule the motion to strike the answer of Mr. Holliday. I further order and direct that unless Mr. Hughes authorizes his counsel or some other person in writing, in form satisfactory to counsel for TWA and the Special Master, to accept service of a subpoena to appear for the taking of his deposition on or after July 1, 1962, at [Dep. Tr. 4473] such time as it may properly be reached under the orders of the Court, by June 20, 1962, that Hughes Tool Company answer the interrogatories as presented, except as modified by the statements of Mr. Sonnett this morning.

I did not direct that Mr. Holliday personally have to answer the interrogatories, because I interpret the interrogatories as reaching such information as Mr. Holliday has.

Mr. Barr: If this matter is concluded—

The Special Master: I want to make it clear on this record that where I provide that the order will not require the answering of the interrogatories if Mr. Hughes authorizes the acceptance of a subpoena, it is only a subpoena for his appearance for the depositions, and I am not requiring that he authorize the service of process in this case upon himself. I want to make that clear in the record.

Is there any question?

All right, Mr. Barr.

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Tillinghast—Deposition

[Dep. Tr. 4669] Q. I am interested in criticism or critical remarks that Mr. Leslie may have made relating to the allegations of this complaint.

A. The only thing I can say on that, Mr. Davis, is that at—on one occasion, sometime after this action had been brought, Mr. Leslie said to me that he thought that the lawyers had brought the wrong suit, that the suit they should have brought was a suit based upon the fact that Mr. Hughes wouldn't let TWA be run like a business, and he said, so far as this matter of financing is concerned, that he always felt that Hughes Tool Company had plenty of money that they could come up with if they really wanted to, and he shouldn't have been criticized, impliedly or otherwise, for having failed to arrange financing, because, he said, it was always—"I always knew if Mr. Hughes really wanted to he could provide the financing."

[Dep. Tr. 4670] So I suggested that he go and talk with Mr. Sonnett, and explain his views fully to Mr. Sonnett. That is the only occasion that I can recall. I am quite sure it is the only occasion when he was let's say critical of the lawsuit, to my knowledge.

Q. And when did this take place?

A. Oh, I would guess that this was sometime in the fall of 1961.

Q. Before Mr. Leslie went to the hospital?

A. Oh, yes. It was well before then.

Q. Wasn't Mr. Leslie referring to a proposed affidavit that had been submitted to him?

A. I know that at the time he spoke to me—well, I want to put this right.

I know that the time that he spoke to me was at a time when he was having some conversations with Mr. Sonnett.

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So far as I know, no affidavit was ever submitted to him for signature, Mr. Davis.

Q. He spoke to you more than once on this subject, didn't he?

A. No, I think he spoke to me only once.

Q. Wasn't there a time as a result of which you suggested he go see Mr. Sonnett and discuss his views with Mr. Sonnett?

[Dep. Tr. 4671] A. This is the time about which I have just testified.

Q. After he had an opportunity to discuss the matter with counsel for TWA did he bring the subject up again with you at all?

A. No, I have no recollection of his having mentioned it again.

Q. Did you mention it to him?

A. No.

Q. Did you ask him if he was satisfied now that there was merit to the lawsuit?

A. No, I didn't, Mr. Davis.

Q. This subject of the manner in which equipment had been financed was one which was important to you, was it not?

A. Well, it wasn't important in the current operations of the company. It was important to the lawsuit.

Q. Don't you recall a telegram from Mr. McCone suggesting that a thorough investigation be made of the manner in which equipment had been made available to TWA in the past, or financed, in connection with what the attitude of TWA should be toward 990s?

A. Well, on the subject of Mr. McCone's telegram, if you are referring to the one I think you are, it had to do with the question of whether there was any obligation

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[Dep. Tr. 4672] on the part of TWA to buy 990s from Hughes Tool Company, and I satisfied myself, as I have already testified several times, that there was no obligation.

Q. I understand that, but I also gathered from your prior testimony that as a result of the inquiry being made by Mr. McCone, possibly others, you undertook to inquire as to the facts, I thought from Mr. Leslie and Mr. Rummel. Am I wrong in that?

A. I undertook to inquire as to whether or not there were any facts that would give rise to an obligation on the part of TWA to take the 990s from Hughes Tool Company, and I satisfied myself that there was no obligation.

Q. Yes, but in connection with that I thought that you previously testified that you had made inquiries as to the past practices of the Tool Company in its relationship with TWA.

A. Only to the limited extent of determining whether any obligation exists, and as I think I already testified, most of my conversations were with Mr. Rowe, who had personally been familiar with this whole situation, and who was quite positive that there was no obligation, and indeed, subsequent circumstances have made that abundantly clear.

Q. Can you give me as fully as you can just exactly [Dep. Tr. 4673] what it is that Mr. Leslie said to you at the time that you suggested he go see counsel?

A. I don't think I can give you any more than I have already told you, Mr. Davis.

Q. Following that have you ever been told by anyone what the details were that Mr. Leslie had to support those general conclusions?

A. No, I have not.

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Q. Did you discuss that with Mr. Reed, counsel for the voting trustees?

A. I don't believe I ever discussed that with Mr. Reed.

Q. Mr. Breech?

A. No.

Q. Did you ever tell him about the incident?

A. No.

Q. Did you tell Mr. Leithead, the chairman of the special litigating committee, about this incident?

A. This was long before Mr. Leithead's committee was formed, Mr. Davis, and I don't believe I have ever told Mr. Leithead about it.

Q. Since it was formed you had no occasion of telling Mr. Leithead about it?

A. No.

Q. Do you recall discussing that or mentioning it to [Dep. Tr. 4674] any of the directors of TWA?

A. I have no recollection, Mr. Davis, of having discussed that with anyone but counsel.

Q. By counsel you are referring to Mr. Sonnett, or members of his firm?

A. And Mr. Rowe.

Q. Would you tell me what your discussion with those gentlemen was?

Mr. Sonnett: I am not quite sure I know what Mr. Davis is intending to ask. If the question is intended to be as broad as it sounds, I object to it.

Mr. Davis: I am only interested in the discussion had with counsel relating to what Mr. Leslie had said, what facts Mr. Leslie claimed were pertinent to his criticism of the lawsuit, or relating in any way to the lawsuit.

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Mr. Sonnett: I think I, on that basis, must press the objection. I think conferences between this witness and counsel with respect to the preparation of this case, and the possible testimony of any witness, it seems to me, are clearly within the work product rule, and I don't think Mr. Davis should be allowed to get at this through the back door, which he is trying to do.

[Dep. Tr. 4675] Mr. Davis: I understand, Mr. Rankin, from this witness, that this occurred not in connection with preparing anybody as a witness, but in the fall of 1961 Mr. Leslie, an officer of the company, who heretofore had been described as one familiar with the facts, went to the chief executive officer of the company to explain to him the facts that he knew which were pertinent to the merits of the lawsuit, and the chief executive officer referred him to counsel, and apparently the chief executive officer, rather than going back to Mr. Leslie and finding out from him just what the details of it were, found out what Mr. Leslie was saying through counsel.

The Witness: That is not correct, Mr. Davis.

Mr. Davis: I don't understand the basis of the objection.

Mr. Sonnett: In the first place, the first objection is you have misstated the record of the witness' testimony rather badly. The witness did not testify as you have described his testimony.

The Special Master: The inquiry can be made of the witness as to what he said to counsel about this matter, and as to what counsel related Mr. Leslie said to counsel.

Tillinghast—Deposition

[Dep. Tr. 4675A] But if you are getting into the question of any advice that counsel gave concerning—

Mr. Davis: I am not seeking that.

[Dep. Tr. 4676] Q. Mr. Tillinghast, I am not asking for any advice given to you or to anyone else at TWA by counsel. I am merely asking you to describe the discussions that you have had insofar as what you told counsel with respect what Mr. Leslie had told you and what they told you as to what Mr. Leslie had told them.

A. Well, Mr. Davis, all of my discussions with counsel have related to the question of whether or not there ought to be an amendment of the complaint or a separate action for the purpose of stating certain additional and alternative causes of action.

Q. I am not interested in the advice of counsel with respect to the form of the complaint, Mr. Tillinghast.

I am interested solely as to what Mr. Leslie said or what counsel reported to you Leslie said.

I don't assume that Mr. Leslie was purporting to act as a lawyer. Was he?

Mr. Sonnett: I am afraid he was. He was trying to improve this complaint.

A. Mr. Davis, I will repeat, if I may finish my question, my answer, that all of the conversations I have had with Mr. Sonnett and Mr. Rowe about what Mr. Leslie had to say had been in the context of whether or not there should be additional or alternative counts or suits or [Dep. Tr. 4677] causes of action, and I cannot separate any discussion I have had with them of what Mr. Leslie had to say from the subject of advice as to causes of action that should or should not be pleaded.

Tillinghast—Deposition

Q. You mean that you are unable to separate the facts told to you by counsel, what Mr. Leslie told them were facts, transactions, the manner of operation of TWA prior to the time you became chief executive officer, the facts relating to whatever conduct took place between the Tool Company and TWA, you cannot separate those from the advice you were receiving from counsel as to the kind of a cause of action that ought to be brought, is that what your testimony is?

Mr. Sonnett: Mr. Rankin, may I, in the first place, object to the form of this question. Secondly, it seems to me perfectly apparent that what Mr. Davis is trying to do is to find out whether in the course of my interrogation of Mr. Leslie Mr. Leslie gave me his version of facts, and whether I transmitted Mr. Leslie's version of the facts to this witness.

If I did, it clearly is within the work product rule. Whether I told it to this witness or to the special litigation committee doesn't deprive it of the work product character. There is no waiver at [Dep. Tr. 4678] all. Mr. Davis will have ample opportunity to examine Mr. Leslie when he testifies, and to get his version of the facts, and to find out why Mr. Leslie thought that TWA's case against Hughes could be strengthened by the cause of action which struck him as most important, Hughes' refusal to let TWA be run as a business. The witness is going to be here. This is just a back door attempt to get at work product that he can't get at directly.

The Special Master: You may answer this question.

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A. Mr. Davis, neither Mr. Sonnett nor Mr. Rowe has ever stated to me the facts stated to them by Mr. Leslie.

Q. And you made no effort to obtain those facts from Mr. Leslie through anyone else?

A. That's correct.

Q. A moment ago you testified that you did not know of any affidavit submitted to Mr. Leslie for his signature. Now my question is whether or not you ever learned that Mr. Leslie had a draft of a proposed affidavit which he discussed with his own counsel and which disturbed him.

A. No, I have no knowledge that Mr. Leslie had a counsel or discussed a draft of affidavit with him. The only thing that I know is that about the time that I am [Dep. Tr. 4679] speaking of there was a question of whether or not it would be advisable to prepare affidavits or to have various of the officers of TWA prepare affidavits.

So far as I know, no affidavits were prepared for anyone or submitted to anyone for signature.

Q. But you do recall a point at which consideration was given to the desirability of having various officers of TWA—

A. That was discussed, yes.

Q. When was that discussed?

A. This would have been some time in the fall of 1961 also.

Q. Do you recall those who participated in that discussion?

A. Well, these were discussions I had with Mr. Sonnett and Mr. Rowe.

Q. Just the two of them?

A. Yes.

Q. You never discussed that with Mr. Rummel or Mr. Cooke or Mr. Leslie?

Tillinghast—Deposition

A. No, I don't recall ever having discussed it, except that I mentioned before that at one point Mr. Rummel gave me a draft of a statement of fact that he was preparing, and if my recollection is correct, at the time it was [Dep. Tr. 4680] contemplated that that might be embodied in an affidavit. But to the best of my knowledge, that was never done.

Q. Don't you know or weren't you told that at about the same time or around that time, in the fall of 1961, Mr. Cocke was also presented with, say, a draft?

A. I don't know, Mr. Davis. I might further illuminate this by saying if I recall correctly, this was at a time when it was thought that there might be a motion to dismiss or a motion for summary judgment, and when it became apparent that Hughes Tool Company wasn't going to press that motion I believe that the matter of possible affidavits sort of just disappeared.

Q. Now you remember, don't you, the conferences and activities within TWA to prepare affidavits to oppose this motion of the Hughes Tool Company?

A. No, I do not, Mr. Davis.

Q. Did Mr. Cocke express to you some difficulties in subscribing to facts reflected by a draft submitted to him?

A. No, he did not.

Q. Did he express to you some criticism of the allegations of the complaint or the facts which TWA was trying to put together?

A. No. The only thing even approaching any criticism [Dep. Tr. 4681] on the part of Mr. Cocke was a question that Mr. Cocke raised as to what the legal theory of the complaint was, and he once raised a question as to what he thought about public relations effects of a technical case, which he apparently regarded this might be. But

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that is the extent of any misgivings of any sort that Mr. Cocke expressed.

Q. Was that about the same time, in the fall of 1961, about the same time that Mr. Leslie was expressing—

A. No, as I recall it, this was considerably before that, and relatively shortly after the complaint was filed.

Q. You have given me a description of what Mr. Cocke said. Can you tell me more specifically the substance of what he said, other than in terms of conclusions?

A. I have great difficulty at this point in recalling exactly what he said, Mr. Davis. The only thing I can recall is that he said that he thought some people would have question in their minds as to whether Hughes had done more good or more bad for TWA, and I remember saying to him that it wasn't a question of whether on balance there was more good or more bad, it was a question of whether there had been a violation of the antitrust laws, that that was a technical legal question, that, as I conceived it, the broad issue of where the greater good or [Dep. Tr. 4682] evil lay wasn't involved in the action, and that is all I can remember of my conversation with Mr. Cocke.

Q. There came a time when Mr. Cocke's duties and responsibilities were transferred to someone else?

A. That's correct.

Q. In fact, Mr. Cocke was transferred to a status of semi-retirement?

A. No, I wouldn't say semi-retirement.

Q. How would you describe it?

A. Well, he was transferred into a new position, in which he is very active.

Q. When did that take place?

A. September 1st.

Q. 1961?

A. 1961.

Tillinghast—Deposition

Q. Was that fairly soon after Mr. Cocke had described to you his views?

A. I can't be sure, Mr. Davis, what the concatenation of events was. It may have been either before or after. It would, as I recall it, not have been long distant in point of time, but whether it was before this or after this, I just couldn't tell you.

Q. Do you recall whether or not it was before or after this motion that had been made by the Hughes Tool [Dep. Tr. 4683] Company?

A. Can you tell me when that motion was made?

Q. Shortly after the complaint was filed, August.

A. Well, it—I had my conversation with Mr. Cocke, as I recall it, my conversation relative to his change of position, about ten days prior to September 1st.

Q. Prior to the shift in position, will you describe generally what the scope of Mr. Cocke's duties and responsibilities was before this change took place?

A. He was system general manager.

Q. What does that mean?

A. Well, he was the general manager of the operations of the system.

Q. Was he the senior officer in charge of the overall operation aspect of the airline?

A. That's correct.

Q. How long had he had that position?

A. Oh, a couple of years, I guess.

Q. What had he been prior to that?

A. He had been general sales manager.

Q. So he had been system general manager during 1959 and 1960?

A. Not assistant general manager.

Q. No, he had been system general manager?

[Dep. Tr. 4684] A. Yes.

Tillinghast—Deposition

Q. During the years 1959 and 1960, is that correct?

A. Well, I don't know just when he went in, Mr. Davis, but I have known the date. It was when the reorganization under Mr. Thomas took place, and that was some time in—I think it was some time in 1959, yes.

Q. During the reorganization that Mr. Thomas put into effect at TWA, while he was president of TWA, Mr. Cocke was made system general manager, is that right?

A. That's right.

Q. How old a man is he?

A. Mr. Cocke?

Q. Yes.

A. He is 58 at the moment, I believe.

Q. Then, in September 1961, a decision was made to relocate Mr. Cocke, is that correct?

A. No, the decision was made in August.

Q. Do you recall when it was made in August?

A. Well, it would have been about ten days—well, the decision, I guess, was in the process of being made during the first half of August, and I talked with Mr. Cocke a week or ten days before September 1st, when Mr. Hall took over as system general manager.

Q. What duties were assigned to Mr. Cocke as a result [Dep. Tr. 4685] of this change?

A. Well, Mr. Cocke is now in charge of what we call industry affairs, and as such, he is in charge of public relations, he is in charge of tariffs, he is in charge of relations with other airlines, which includes jurisdiction over the Air Transport Association and the International Air Transport Association, and you might say that he is in charge of external affairs.

Q. By external you mean outside of the country?

A. Well, outside of the company. Dealings with other airlines, public relations, matters of that sort.

Tillinghast—Deposition

Q. Was his compensation affected as a result of this—

A. There was—no change was made in his compensation.

Q. That was a change that you discussed with some of the directors?

A. Yes.

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[Dep. Tr. 4686] . . . Q. Will you now describe the discussion you had with Mr. Breech as to the desirability or lack of desirability in making this move with respect to Mr. Cocke, and with particular reference to the impact it might have on the lawsuit or his availability as a witness, things of that kind?

A. To the best of my recollection, Mr. Davis, I never discussed with anyone any impact that it might have on this lawsuit, with anyone.

I discussed with Mr. Breech the fact that we seemed to be falling substantially behind our forecasts, we had been having a very bad season, and I felt that we needed [Dep. Tr. 4687] to strengthen the system management, that I felt that Mr. Cocke was not the man who would bring the greatest strength to this position. I said for one thing I felt that he had been through so many crises and discouragements over a period of years that he—well, that his ambition and spark to do better had been somewhat dulled. I felt that our problem was of a magnitude that it would be better handled by a younger, less disillusioned, more aggressive person, and that I felt Mr. Hall would bring more drive and imagination to the position.

Also, I said that I felt that Mr. Cocke was by nature not a planner, and that I felt that the position needed somebody in it who was more of a planner than Mr. Cocke. I said that Mr. Cocke could be very useful to me filling this other position, to which I didn't have time to do justice.

Tillinghast—Deposition

and that our external affairs needed more time and attention, particularly with the coming retirement of Mr. Pierson, who over the years had handled IATA and a number of other external matters.

Mr. Breech, who then felt, and I believe still does today, the highest regard for Mr. Hall, agreed with me completely that Mr. Hall would do a more effective job. I should also add that I told him that I was getting the impression that there were a good many people in the system [Dep Tr. 4688] that felt that Mr. Cocke lacked the leadership that was needed in this position, and I felt that they were restive, and that, among other things, a change in this position would have the enthusiastic support of the system people, and would give them new hope, would improve their morale, and generally give us a more effective operation.

Q. Do you recall what Mr. Breech said in response?

A. Only that Mr. Breech agreed very vigorously, and felt that Floyd Hall would bring new strength and vigor to the office, and that it was a move that would be very advisable to make.

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[Dep. Tr. 4689] . . . Q. Mr. Cocke was at the time a director?

A. He was.

Q. Is he still a director?

A. He still is a director. And I would like to add that so far as I have been able to discern, the change has worked out excellently. It has had Mr. Cocke's enthusiastic acceptance, and I think in his present job, relieved of the great pressures that inevitably are on the system general manager, he is happier, more effective, and that things worked out very well.

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Tillinghast—Deposition

【Dep. Tr. 6113】 * * * By Mr. Davis:

Q. Mr. Tillinghast, did anyone ever tell you that the contention that there ever existed a conspiracy between Atlas and Hughes Tool Company relating to a Northeast merger was a lot of nonsense, a lot of bunk?

A. Yes.

Q. Will you identify who those people were?

A. Well, just one person. Mr. Stretch.

Q. I had in mind anyone connected with TWA.

【Dep. Tr. 6114】 A. No, he did not.

Q. No one ever did?

A. No one ever did.

Q. Did you ever discuss this matter with Mr. Reed?

Mr. Williams: "This matter" being the inclusion of Atlas Corporation as a co-conspirator?

Mr. Davis: The feeling that at least a serious question existed as to Atlas being a co-conspirator, yes.

Mr. Williams: Did you ever discuss that with Mr. Reed?

A. Well, I discussed that, as I recall it, with Mr. Reed in the course of a conference which Mr. Sonnett, Mr. Rowe and I had with Mr. Reed and his partner, Mr. Surbeck, at a time when they, Mr. Reed and Mr. Surbeck, reviewed a draft of the complaint, and discussed with Mr. Rowe and Mr. Sonnett their comments.

Q. Who else was there besides yourself?

A. My recollection is we were the only ones, those that I have just mentioned.

Q. When did that take place, approximately, do you recall?

A. Well, that was rather shortly, as I recall it, before the filing of the complaint, Mr. Davis. I can't tell 【Dep. Tr.

Tillinghast—Deposition

6115] you exactly when it was, but it would have been in the last two weeks of June.

Q. Will you describe exactly what was said in that conference?

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[Dep. Tr. 6121] * * * A. Well, Mr. Davis, as I recall that meeting, we had before us a draft of complaint, and we went through it from more or less beginning to end.

As I recall the discussion, it related mostly to legal theory.

I remember that there was rather a lengthy discussion of the affect, the legal affect of Civil Aeronautics Board orders, particularly as it related to the Section 7 cause of action. It is a little difficult for me to recall all that was said at the time on each of these subjects.

I think, as I say, that most of the time was consumed in the—in a discussion of legal theory.

Q. I am interested in facts at the moment, Mr. Tillinghast.

Mr. Sonnett: You want an answer or an argument? You asked him what was said, and he told you, Mr. Davis. Why don't you withdraw the comment, or keep it to yourself.

Q. May I have your complete and total recollection of what was said relating to the facts which supported any of these legal theories?

A. Well, I don't recall, Mr. Davis, that there was any extensive discussion of the facts as such. I think that the [Dep. Tr. 6122] discussion related to the legal affect of the fact and to the legal theories involved in the complaint.

Offhand, I can't recall any specific discussion of factual questions, although there may have been.

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Mr. Williams: May the witness be excused? He does have a 5:00 o'clock appointment uptown. He has answered this question and several more.

If counsel wants to pursue it further, he can do so when we resume.

Mr. Davis: I would like to pursue it now, if I may.

Mr. Williams: I don't agree to this procedure, your Honor. I think you set a time for stopping.

You asked him to answer the question.

He has answered it as best he can.

If counsel isn't satisfied, let him ask some questions on Thursday.

The Special Master: I think that the inquiry should reach the range of the conference, and after that is established, then we will excuse the witness.

Mr. Davis: Yes.

Q. Whether the discussion of the facts was extensive or not, and whether or not they related to legal theories, I want you to give me at this time your total recollection [Dep. Tr. 6123] of the facts which were discussed at that conference, facts which were mentioned in that conference.

Mr. Sonnett: If any.

A. Well, facts were mentioned, such as the fact that various of these things had been submitted to the Civil Aeronautics Board, that Hughes had pre-empted to himself the matter of equipment, that he was the one who controlled financing.

I would think, Mr. Davis, that—my recollection is that this complaint we were discussing was pretty close to the form of the complaint that was finally filed, and you might say that in a sense we discussed all of the facts that are set forth in that complaint.

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I have to say once again that this discussion was a discussion more—primarily of legal theory of the complaint rather than as to the underlying facts, and the facts, as I recall it, were discussed only as they were incidental to a discussion of the legal questions.

Q. What facts were discussed relating to the existence of a question as to Atlas Corporation being a co-conspirator?

Mr. Williams: If any such facts were discussed.

A. Offhand, I don't recall any facts relative to that that were discussed as such.

Q. I don't refer now to a discussion of facts as such. [Dep. Tr. 6124] I am referring to anything mentioned, adverted to, referred to.

A. Well, at the moment, Mr. Davis, I have no recollection of any specific discussion of the Atlas side of things, although I have no doubt that it was touched on at some point in the course of the discussion.

Q. Will you describe the nature or extent of the participation of Mr. Reed and his partner in this discussion of the allegations of the complaint?

A. Well, as I recall it, Mr. Reed's participation in the discussion of the complaint was a rather limited one, and that most of the burden of the discussion was carried by Mr. Surbeck, who is an antitrust expert.

I remember, so far as factual discussions, that we had a discussion of the relative virtues of bringing an antitrust type of proceeding as opposed to a what would ordinarily be a derivative stockholders type of suit.

I remember, so far as facts are concerned, that Mr. Sonnett stated that he felt so far as any common law or equity cause of action by TWA against Mr. Hughes or Hughes

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Tool Company that he felt he wanted to investigate the matter considerably farther than he had been able to, and hoped to have an opportunity of either voluntarily or in some proceeding talking or—talking with or examining Mr. Hughes [Dep. Tr. 6125] relative to certain facts.

I remember we discussed the airplane that Mr. Hughes pre-empted in, oh, 1956, or whenever it was, and lived in for a matter of some months, I remember Mr. Sonnett's taking the position, with which Mr. Reed agreed, that one of the advantages of bringing an antitrust action was that it avoided the matter of—well, let me put it this way—that it didn't carry the social stigma that certain other types of actions might, and that therefore very likely would involve less the creation of a personal gulf or a personal vendetta with Mr. Hughes.

With respect to the facts that were discussed, this is all that comes to mind at the moment, Mr. Davis, although I am sure that in the course of the discussion a good many more things were touched on.

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[Dep. Tr. 6283] • • • Mr. Davis: We will come to that.

The Witness: Mr. Davis, it is my recollection that at this meeting we had a general discussion of the conclusions to which Mr. Cahill and Mr. Sonnett were in the process of coming, so to speak. As I recall it, Mr. Cahill or Mr. Sonnett, and I can't recall at this juncture just who did the talking, said that they had by no means completed their investigation, but they had come to some tentative conclusions.

The conclusions were that rather than to become involved in the details of an equity action involving possibly multiple assertions of wrongdoing, which

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would involve considerably more factual investigation and determination of detail which they had not had an opportunity to pursue, they felt that they very likely would recommend to TWA the institution of an antitrust action, based upon the fact that Mr. Hughes had pre-empted to himself the procurement of planes and the financing of TWA's operations.

They said, as I recall it, that they had talked with Mr. Thomas in California, and that he seemed most reluctant to talk very freely, but that out of [Dep. Tr. 6284] those discussions some things had appeared very clearly.

Among those were the fact that when he had taken over as president of TWA, there had been an understanding between him and Mr. Hughes that he was to have nothing whatever to do with the procurement of equipment, nor the working out of financial arrangements of the company, nor with advertising, all of which Mr. Hughes was keeping to himself.

They said that they felt it was clear that in these—

By Mr. Davis:

Q. Excuse me, but when you said "they said it was clear," I would appreciate if you would identify who "they"

A. Mr. Cahill and Mr. Sonnett. That Hughes had pre-empted these areas to himself. They said they also thought it was clear that TWA had suffered very substantially from the delay in getting equipment, and that they had received from both Mr. Leslie and Mr. Fellows separate estimates that TWA had been damaged by this to the extent of approximately \$35 million.

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They had said, as I recall it, or Mr. Sonnett said this, I am quite sure, that he felt as he looked at [Dep. Tr. 6285] this situation and saw the dispute that had come up over the Boeing acquisition and the pressures that the Tool Company had brought to try to interfere with that, that there wasn't likely to be any real solution to this problem, short of a divestment of Hughes' interest in the airline.

He said, if I recall correctly, that when the voting trust was set up, people felt that at last they had this problem solved and had stability, and then it was just a matter of time before another controversy arose.

He said, "I think you have to face the fact that it is very unlikely that you will ever be free of controversy, so long as this relationship exists, and for that reason he thought a divestment proceeding was what was really needed in order to solve the problem.

He said that it seemed abundantly clear that TWA was too large and too important to its stockholders and employees and the public to be the plaything of an eccentric man, and that he felt that in the last analysis a Court would come to the conclusion that a continuation of this relationship was just inconsistent with the public good and with the good of others having a legitimate interest in the company.

I remember he referred—

[Dep. Tr. 6286] Q. "He" being who?

A. I believe this was Mr. Sonnett—to the then fairly recent decision in the Panagra case, and he also referred to the duPont decision.

Mr. Rowe, I recall, raised the question as to the effect on any action of this sort, of the fact that certain of these things had in a sense been submitted to the Civil Aeronautics Board and approved as specific transactions.

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To that Mr. Sonnett said, if I recall correctly, he felt that the Panagra case established beyond any real doubt that if there was an underlying antitrust situation, the approval of specific transaction done pursuant to the conspiracy which in and of itself might be legitimate and proper would not save the conspiracy from being the subject of judicial action.

As I remember it, and I can't remember everything that was said on the subject, a large part of the discussion revolved around what I will refer to as the CAB question, and what the effect of the CAB action was, both as it related to Section 7, and as it related to the question of an antitrust conspiracy generally.

That is as much as I remember at the moment, Mr. Davis, although undoubtedly there were a good many other [Dep. Tr. 6287] things said.

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[Dep. Tr. 6294] * * * By Mr. Davis:

Q. Will you identify the information that you have relating to what you have described as the efforts of Mr. Hughes, or of this conspiracy, to monopolize or otherwise pre-empt the procurement or financing of aircraft by TWA, without repeating anything which you have already testified to?

You may repeat it as much as you care to if you are uncertain as to whether you have already testified to it.

A Mr. Davis, it is my understanding that from prior to the time that Mr. Thomas became president, that Mr. Hughes has insisted on personally approving all purchases of aircraft and all financial arrangements. And when Mr. Thomas became president of TWA, it was distinctly understood that he would have nothing to do with those two subjects.

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It is further my understanding that the motivation Mr. Hughes sprang from the fact that Mr. Hughes is a very rich man, that the Hughes Tool Company made substantial profits, and that if those profits were paid out in the normal course as dividends, that the vast majority of them would go to Uncle Sam in the form of taxes.

【Dep. Tr. 6295】 And as a consequence of that, Mr. Hughes was concerned with means of having Hughes Tool Company in the business of running an airline, and to be so fixed that it would have demands on its cash which would make it impossible to pay dividends, and thus would make it possible to avoid a 102 tax problem that obviously would exist in the absence of this need.

It is further my understanding that towards the end of each year, at least in the earlier days, Hughes conferred with the financial people for the purpose of reviewing this problem and seeing to it that there were commitments that would offer ample protection against any 102 type of claim.

It is further my understanding that for some reason which I have never fully understood, Mr. Hughes insisted on keeping percentage interest in TWA at a point just under 80 per cent, thus enabling him to treat this as an integral part of the Hughes Tool Company business without getting him in the position of consolidating earnings for tax purposes.

From what I have been told in these regards, I have concluded that the interests of TWA were sacrificed to the personal interests of Howard Hughes and both the personal whims and the personal tax problems of Howard 【Dep. Tr. 6296】 Hughes, and that the welfare of TWA from the standpoint of being free to finance itself and to raise capital, even though it meant a dilution of the Hughes interests and to itself, go out and make its own arrangements for planes,

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were treated as secondary to Hughes' primary interest in his own welfare.

As I know, I read the article to which frequent reference has been made here, called "The Spook and the Bankers" or "The Bankers and the Spook"—I can't remember which—which recounted many of the problems faced in trying to work out the 1960 financing.

I have been told several times by Mr. Wadsworth of Dillon, Reed, and others, by Mr. Sessel, that it was next to impossible to work anything out with Mr. Hughes because things would get about to the point of decision, and then nothing would happen. That he would constantly stall and postpone, and that several attempts to really straighten out TWA's financial condition were thwarted by the fact that Hughes insisted on being the person to decide such things, and that either it was impossible to get decisions from him, or he would refuse to do what seemed to be necessary to the achievement of the ends required.

I have also been told, principally by Mr. Leslie, [Dep. Tr. 6296A] I think, that Mr. Hughes refused to let TWA be run like a real business organization, and in particular prevented it from having the continuity of management that would enable it to be run as well and as profitable as its competitors.

That is perhaps a bird's eye view of the matter.

[Dep. Tr. 6297] Q. Have you identified now all the areas?

A. I am sure I haven't identified every single one of them, but I think with my prior testimony I have identified certainly the important areas which characterize my thinking or knowledge on the subject.

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Tillinghast—Deposition

[Dep. Tr. 6302] • • • By Mr. Davis:

Q. Among the various matters identified in your last answer, Mr. Tillinghast, you referred to an understanding that you had that Mr. Hughes resisted the procurement of aircraft or financing without his personal approval.

My question to you is: What is your understanding based upon? Who told you that?

A. I have been told that by many people, Mr. Davis.

Q. Anyone at TWA, or anyone claiming to have personal knowledge of the facts?

A. Yes.

Q. Who?

[Dep. Tr. 6303] A. Mr. Rummel and Mr. Leslie, Mr. Rowe, Mr. Pierson.

Q. Mr. Pierson?

A. Yes. Those are all that come to mind at the moment, but I am sure that numerous other people have remarked on this. I have always understood this to be something about which there wasn't the slightest question whatever.

Q. But those are understanding on oral conversations with those people. You never received anything in writing in the form of a report or memorandum, or you never saw any such writings or memoranda purporting to set forth facts or examples of this?

A. I don't recall any writings that dealt with this problem. I have never known any occasion within TWA for anyone to write it.

Q. Do you know of those people whom you have identified, do any of them claim to have had direct communication with Mr. Hughes in that regard?

A. I know Mr. Leslie and Mr. Rummel have.

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Q. Does Mr. Rowe claim to have had direct communication with Mr. Hughes on that subject?

A. I don't recall his having claimed to have had direct communication with Mr. Hughes on that subject.

Q. Mr. Pierson?

A. I just don't know so far as Mr. Pierson is concerned. Mr. Davis, as I recall what Mr. Pierson said on the subject, it was just a casual remark in the course of a conversation with him in the early days.

Q. Was anyone else present at the time he made that remark?

A. Not that I recall.

Q. You also testified as to your understanding relating to the alleged motivation of Mr. Hughes in connection with tax questions, 102 problems, and the like?

A. Yes.

Q. What is the basis of your understanding as to the motivation of Mr. Hughes?

A. Well, it consists principally of a conversation with Mr. Leslie.

Q. Anyone else? Mr. Slack?

A. Yes, Mr. Slack.

Q. Do you recall the occasion when you discussed that with Mr. Slack?

A. Yes, I recall the occasion when I discussed it with Mr. Slack, because the way this came about was that one day I was thinking about this complaint, and this would have made it, I guess, June, maybe May—I can't remember just when—and I was wondering really what had been the point of all this running of airplanes through [Dep. Tr. 106] Hughes Tool Company. As I was thinking about it, it occurred to me that maybe it was a 102 problem that was

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responsible for all this, and I walked down the hall and went into Mr. Leslie's office, as I recall it.

I asked Mr. Leslie, or I said to Mr. Leslie, as I recall it, "It just occurred to me what this procurement is all about. It seems to be obvious that Mr. Hughes has a 102 problem, and that this would be a convenient way of solving that problem."

I can't remember just exactly what he said in response to that, but then he went on to say that for years, I believe both when he was with Hughes Tool, and after that, when he was with TWA, in the latter part of the year there would be a conference in which they would discuss this problem.

He said Hughes was one of the best taxmen that ever lived, and he was completely pre-occupied with the subject of taxes, and personally completely absorbed in this tax problem, and it was one that had been a perennial problem year after year.

(Mr. Cook entered the hearing room)

I am not sure whether it was the same day—as a matter of fact, I think I have my chronology a little bit wrong here, because I think my conversation with [Dep. Tr. 6306] Mr. Slack was before my conversation with Mr. Leslie. I was thinking first it was after, but it wasn't; it was before.

I asked Mr. Slack the same question. Mr. Slack gave me a long speech about how he had been Mr. Hughes' attorney, and had professional obligations, and didn't feel free to talk about the subject, and so forth and so on, but from what he said I got the very distinct impression that I had hit the nail on the head.

This was obviously about the time of a board meeting, because Mr. Slack was there in New York.

Q. And following this conversation with Mr. Slack, you went to see Mr. Leslie?

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A. I think it was in that sequence. It may have been the other, but I think I talked with Mr. Slack first, and then talked with Mr. Leslie.

Q. Can you tell us a little bit more specifically what it is that Mr. Slack said to you?

A. It is hard to be exact, but he said he had been very close to Mr. Hughes. That he had represented him in many ways as his personal counsel. That one of the things that he had dealt with was what I was asking him about.

Q. The 102 tax problem?

A. That's right. That Mr. Hughes had given him, [Dep. Tr. 6307] many provocations, but that he took great pride in his professional rectitude. He didn't use exactly that word, but his professional obligations. That so far he had not breached his obligations, vis-a-vis Mr. Hughes, and that he hoped that I would not urge him to or force him into something of that sort.

Whereupon, I said that I wouldn't think of doing it, and the conversation stopped there.

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[Dep. Tr. 6363] . . . The Special Master: He may answer the question as to his understanding of the position of the Cahill firm.

A. As I think I testified the other day, Mr. Davis, the Cahill firm recommended an antitrust action as opposed to just an equitable action for a number of reasons.

One was they felt what Mr. Sonnett has just said, that it would not be in the interests of TWA or in the interests of working out some solution of this problem to charge Mr. Hughes with personal misconduct, the feeling being that this would increase feelings to the point that any sensible solution might become impossible.

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They also recommended, as I testified the other day, that the only ultimate solution to this problem was a divestiture by Mr. Hughes or the Tool Company of its interest in TWA so that TWA would not be the tail to somebody else's kite.

They also stated that while they were familiar with such things as his commandeering the 1649 airplane at a time when it was very badly needed by TWA, their investigation of this aspect of the matter was quite incomplete. They felt that it would take a good deal of time. They felt that if this were to be developed it would be desirable to have [Dep. Tr. 6364] an opportunity to question Mr. Hughes and people at the Hughes Tool Company, which had not yet been a possibility. They felt that the damages that could be recovered in an antitrust proceeding would certainly be sufficient to cover miscellaneous damages suffered by the corporation by reason of individual acts of malfeasance, and recommended that rather than to hold this up until they had fully investigated that end of it and were prepared to make a definitive recommendation that we should proceed with the antitrust action.

Q. And this was a subject which was discussed at this June 21 meeting, where Mr. Sessel was present?

A. This was discussed in part at that meeting, yes.

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[Dep. Tr. 6379] * * * Mr. Davis: That is what I intend to try to establish, and I think I am entitled to try to establish that.

Mr. Sonnett: That is not the state of the record.

Mr. Davis: If this witness or TWA was told by anyone, whether it be the Cahill firm, Mr. Rowe, or anyone else, or a lay person, that the only way to achieve an objective was to use this kind of a complaint, I am entitled to establish that as a fact with-

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out having to first establish that that is in fact what Mr. Sessel told Mr. Gordon.

The Special Master: I don't understand your question, Mr. Davis, to be what you just now described, as to whether there were such discussions or such advice. I understood your question was whether or not this statement was true.

Mr. Davis: That is the way I started the line of questioning.

The Special Master: Yes.

Mr. Davis: Then Mr. Sonnett, in order to save time, pointed out that taken literally I might be trying to get this witness to testify as to whether or not this was in fact what Mr. Sessel said to Mr. Gordon, [Dep. Tr. 6380] and by this statement I am not trying to suggest that I am trying to confirm at this point the telephone conversation itself.

I then said I wanted to know whether or not it was in fact true that TWA was told or believed that the only way to get an official divestment order was by alleging an antitrust action.

The Special Master: Is that your question now?

Mr. Davis: That is my question now.

The Special Master: You may answer that question.

The Witness: Excuse me. Would you read it back to me?

(The record was read.)

The Witness: Not that I recall, Mr. Davis.

Mr. Davis:

That is not the substance of what Mr. Sonnett or Cahill told TWA at the June 7th meeting?

Tillinghast—Deposition

A. No, Mr. Davis. I don't recall ever being told or believing that that was the only way that it could be achieved. I believe at that first meeting that they did advise us that this a direct and efficacious way of dealing with what they conceived to be the fundamental problem, and that they recommended it for that reason.

Q. What fundamental problem are you referring to?

[Dep. Tr. 6381]- A. The fundamental problem that I testified to previously, Mr. Davis, the inconsistency between proper and orderly administration of the affairs of TWA and its use as a plaything or a thing of whim by Mr. Hughes.

Q. In other words, in order to solve that problem you were told the way to do it was by bringing an antitrust action?

A. We were advised that the relief that would be available in an action like this represented, in their view, the most expeditious way of dealing with this fundamental problem.

Q. Let me refer you to your testimony at page 628. Look at line 8, which reads:

"He said, if I recall correctly"—by "he" who were you referring to? Mr. Sonnett I believe you said. Is that right?

A. I believe so, yes.

Q. (Continuing)—"Mr. Sonnett, if I recall correctly, that when the voting trust was set up, people felt that at least"—

A. "That at last."

Q. (Continuing)—"that at last they had this problem solved."

What problem was that referring to?

Mr. Sonnett: If you read back in the testimony a prior paragraph you will find out.

Tillinghast—Deposition

[Dep. Tr. 6382] Mr. Davis: May I get the answer from the witness, please?

Mr. Sonnett: I object to your taking a portion of a witness' answer and quoting it back to him without quoting the entire answer.

Mr. Davis: He may read this entire record, so far as I am concerned, in connection with his answer. I think this witness is quite capable of refreshing his recollection however he wishes to, including conferring with counsel.

All he has to do is ask for it.

Mr. Sonnett: All I want you to do is put proper questions, and I object to your taking a portion of an answer out of context.

The Special Master: You may answer the question.

A. Mr. Davis, I believe that this problem is the problem referred to in the immediately preceding paragraph of my testimony.

Q. What is that?

A. If you would read the preceding paragraph you would find it stated there.

Q. You mean the dispute about the Boeing acquisition and the pressures that the Tool Company have brought?

A. No, Mr. Davis. What I was trying to say was this, [Dep. Tr. 6383] that—

Q. Let me interrupt you for a moment. What do you mean by the preceding paragraph? You mean the one that starts at line 24 of page 6284?

The Special Master: Mr. Davis, I don't think he finished his answer.

You may proceed with your answer.

Tillinghast—Deposition

The Witness: Would you go back and give me what I was saying when I was interrupted?

(The answer was read.)

A. (Continuing) —that there had been these problems for years resulting from the fact that TWA had not been run as an independent free business, but rather as an adjunct of the Hughes Tool Company, and according to the whims of Howard Hughes, that at the time that the voting trust had been set up many people thought that this basic problem had been solved, but that no sooner had the voting trust been set up than controversy reappeared again, and as evidenced by this Boeing controversy, the question was presented of whether or not TWA was going to be run in the interest of TWA and its stockholders or as an adjunct of Hughes Tool Company, in accordance with the dictates of Howard Hughes, and in the discussion to which I have referred Mr. Cahill and Mr. Sonnett took the position that they felt that there was probably [Dep. Tr. 6384] just one solution to this continual—continuing problem, and that was a divestment of the interest of Hughes Tool Company in TWA.

Q. How was this divestment to be accomplished?

A. By the action which they were recommending that we bring.

Q. An antitrust action?

A. That's correct.

Q. With particular reference to Section 7 of the Clayton Act?

A. Among other things.

Q. What other things?

A. Well, they were talking about both a conspiracy—a Sherman Act case and a Clayton Act case.

Tillinghast—Deposition

Q. At that meeting you were discussing the purpose for which the voting trust had been set up?

[Dep. Tr. 6385] A. No, I don't recall that we were discussing the purpose for which the voting trust was set up, merely that those who had felt that when the voting trust was set up the problem was solved had been rather disillusioned, and now we were again in the middle of problems and controversies.

Q. Did you discuss your testimony with counsel, particularly the testimony that relates to these meetings?

Mr. Sonnett: What is this?

Mr. Davis: I want an answer to the question, if I may.

Mr. Sonnett: I object to it. I resent the question, and I don't like your insinuation, and I don't like your manner either.

The Special Master: He is entitled to an answer to the question. You may answer.

A. The answer is no.

Q. You have not discussed your testimony with counsel relating to these meetings?

A. That's correct.

Q. Did you discuss it with anyone else other than counsel?

A. No.

Q. Referring to your testimony which begins at line [Dep. Tr. 6386] 8 of page 6285, when you identified that the "he" in that line referred to Mr. Sonnett, I recall that a moment ago you said that the problem there referred to was described in the "preceding paragraph."

Let me refer you to the preceding paragraph which begins at the bottom of page 6284, line 24.

Tillinghast—Deposition

A. Well, it refers, in line 5, to any real solution to this problem. It is the same problem, Mr. Davis, and to get the whole context you just have to go read back and get the whole preceding testimony to which this is tied.

Q. Now let's start reading from line 24 at page 6284. You see there where you say "They"—"they," referring to Mr. Cahill and Mr. Sonnett, isn't that right?

A. That's right.

Q. (Continuing) —"They . . . or Mr. Sonnett said this, I am quite sure, that he felt as he looked at this situation and saw the dispute that had come up over the Boeing acquisition," let me stop at that point, "the dispute that had come up over the Boeing acquisition."

This was on June 7th, this meeting, is that right?

A. Yes.

Q. Are you referring to the dispute that had come up over the Boeing acquisition as a dispute which has [Dep. Tr. 6387] previously been identified, testified about, by these documents, Defendants' Exhibit 11, which have previously been identified, or are you referring to any other kind of dispute?

A. Mr. Davis, I don't think the documents testified to the dispute. I testified to the dispute. The documents are part of the dispute. I hate to—

Q. I don't want to quibble with you either, Mr. Tillinghast. I am merely asking you whether or not at that time the reference was to the only dispute that existed as of June 7th as a dispute that has been described in this record.

A. No, that isn't the only dispute that existed as of June 7th, Mr. Davis. A number of things had occurred prior to June 7th.

As I understand it, the voting trust had no sooner been set up, and an attempt made to function under the voting

Tillinghast—Deposition

trust, than the Tool Company directors refused to appear at directors' meetings and constitute a quorum, and as a consequence there had to be a special meeting of the stockholders, and a reorganization of the board of directors, and the Boeing dispute, to which there has been testimony at length, was merely the latest episode in the matter.

[Dep. Tr. 6388] Q. Have you now fully described the nature of the dispute that existed prior to June 7th?

A. I am not sure that I have fully described it, Mr. Davis.

Q. Please do so at this time then.

Mr. Sonnett: If Mr. Davis is asking the witness whether he has anything to add to the record of his testimony from the beginning up to now, I have no objection, on the so-called Hughes problem. If he wants him to repeat any portion of it, I do object.

Mr. Davis: As a standing rule, Mr. Sonnett, I never ask the witness to repeat what he has previously testified to. All he has to say is what he has previously testified to is his complete testimony on the subject.

Mr. Sonnett: Your standing rules I don't find any place in the books, Mr. Davis. I do find the burden on you to put appropriate questions.

Mr. Davis: The Special Master has ruled on more than one occasion and directed the witness that he does not have to repeat prior testimony.

Mr. Sonnett: Why don't you say so in your question?

Q. You don't have to repeat prior testimony, Mr. [Dep. Tr. 6389] Tillinghast, and unless I say otherwise, you may assume that to be a continuing construction of my questions.

Tillinghast—Deposition

A. As I try to think back over the testimony, Mr. Davis, the matters that have been described by my testimony or which appear in the documents, I would say that perhaps the only thing that I haven't touched on that now comes to mind, and perhaps I have adequately covered this, is statements attributed to you to the effect that Mr. Hughes was going to insist on controlling TWA, and that there couldn't be any solution to these problems unless and until TWA was prepared to recognize that control.

Q. Will you identify who attributed that statement to me?

A. I believe Mr. Reed or Mr. Sonnett or Mr. Rowe, or maybe all of them. I am not altogether clear, Mr. Davis.

Q. Do you recall when?

A. Oh, during this letter-writing period prior to—

Q. June 7th?

A. Well, I am not sure that—well, yes, it would have been, as I recall it, in or about this time, yes.

Q. But you cannot recall who of these three gentlemen, or is it your testimony that all three reported the same thing to you?

[Dep. Tr. 6390] A. My recollection is that it was the commonly held viewpoint, and it is a little difficult for me to remember just who said what about what you had actually said to them, but I would be sure it came at least from Mr. Reed and I think from one of the others as well.

Q. Do you recall how this came up or how you were told that, the circumstances?

A. Oh, in the course of discussions about this campaign that you were carrying on at the time.

I might say, I distinctly recall your having told this to me directly yourself, but that was well after this period of time.

Tillinghast—Deposition

Q. What do you recall me telling you, Mr. Tillinghast?

A. That there could be no solution to these problems unless TWA was prepared to be responsive to the wishes of the Tool Company.

Q. Do you recall whether I put it responsive to the wishes of the Tool Company or responsive to the wishes of the stockholders or owners of TWA?

A. The Tool Company.

Q. Do you recall when that took place?

A. Yes. That was in my office, I believe, in October of 1961.

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[Dep. Tr. 6573] * * * Q. At or in connection with your meetings or conferences with Mr. Sonnett or Mr. Cahill, or perhaps at the executive committee meeting of the 29th, you mentioned the fact that the problem or the question of a sealed complaint was discussed. Do you remember your testimony in that regard?

A. Yes, I remember it.

Q. Did counsel at that time describe to you what consequences would flow from obtaining a Court order sealing the complaint?

A. Well, I recall that counsel said that it would not be available to the public in the Clerk's office, and as a consequence, there would be no publicity on it. I don't recall much beyond that, Mr. Davis.

Q. Do you recall whether or not he informed the meeting that if an order sealing the complaint was obtained TWA and its officers should not, in violation of such order, make the complaint available to outsiders?

A. No, I don't recall any such discussion.

Q. Was there any discussion at that meeting as to any plan for seeking to obtain an order for the examination

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[Dep. Tr. 6574] of Mr. Hughes simultaneously with the filing of the complaint?

A. I believe there was, Mr. Davis. I believe that was part of the package, so to speak, that Mr. Sonnett presented that morning.

Q. Will you describe what was said in that connection?

A. So far as I can recall, that it would be desirable to obtain a priority with respect to depositions, and that they hoped to—or that they planned to make a motion to obtain Mr. Hughes' deposition first, and that it was a matter of conjecture whether they would be successful or wouldn't be successful, but they thought it desirable to get the priority of deposition if possible.

Q. Was there any statement or comment made as to the nature of the desirability?

A. Mr. Davis, I am not sure I understand your question.

Q. Was anything said to describe or identify why it was desirable to obtain as soon as possible an order for the taking of the deposition of Mr. Hughes?

A. I don't recall anything beyond what I have just testified to.

Q. You are quite sure of that?

A. That's correct.

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[Dep. Tr. 6576] * * * Mr. Davis: May I have these handwritten notes marked as Defendants' Exhibit 117.

(Photostat of handwritten notes, dated 7/19/61, marked Defendants' Exhibit 117 for identification, as of this date.)

Q. Look at Defendants' Exhibit 117, Mr. Tillinghast. They are notes which we obtained from the Bank of America, and they appear to be notes by Mr. Carver of a

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telephone conversation with Mr. Gordon in which Mr. Gordon described to Mr. Keith Carver Mr. Gordon's telephone conversation with Mr. Sessel, and you will note it is dated July 19, 1961.

You note in the first paragraph there is a statement "Tillinghast and Leslie will talk to banks next Tuesday." That is after making reference to the summer losses, et cetera.

Do you know whether or not you and Mr. Leslie talked to the banks on the Tuesday following July 19th?

A. Well, I know, Mr. Davis, that we had a talk with the banks in the latter part of July. I think July 25th is the date, although I wouldn't be absolutely positive [Dep. Tr. 6577] of it.

Q. Will you please just identify the subject matters that were discussed at that meeting with the banks, and in so doing identifying who was present at that meeting?

A. Oh, dear, Mr. Davis. Each of the banks had a representative. I am not sure that I could identify them each by name at this point.

Q. You are referring to the banks involved in the 1960 financing?

A. That's right.

Q. What was the subject of discussion, the purpose of the meeting?

A. Well, let me finish my—

Q. Please do.

A. And then each of the two insurance companies had a representative there. I remember Mr. Keehn was there. I am not sure who else from the Equitable. I believe there were a couple of people from the Equitable and a couple of people from the Met.

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The purpose of the meeting was to discuss our financial situation, and the need to roll over some of our maturities in order to improve our year end cash position.

Q. You notice that the next item is "This presumes that Toolco may have to come up with some money on its [Dep. Tr. 6578] guarantee."

Do you recall a discussion at that time as to the possibility of the Tool Company having to come up with money on its guarantee?

A. No, I do not.

Q. Can you identify the guarantee this refers to?

A. Well, I would only be speculating as to it, Mr. Davis.

Q. You are not familiar with the provision in the 1960 financing under which the Tool Company gave a guarantee as to the working capital needed by TWA or for maintaining a particular level of working capital?

A. I know there was such a provision, Mr. Davis, that applied until all of the Convairs had been delivered. Whether this refers to that or not, I can't be sure.

Q. Now look at the next entry there, after the note which says "May not tell other banks," "knew HRH scared by Cahill lawsuit."

Did you have any discussion or participate in any meeting with Mr. Sessel indicating that Mr. Hughes was scared by the Cahill lawsuit?

A. Well, Mr. Davis, we had a board meeting on the 19th of July, I believe, which is this day. At that lawsuit we discussed, among other things, the settlement [Dep. Tr. 6579] negotiations that were then taking place with Mr. Bantzer, and I think that the view was expressed that Mr. Hughes appeared very, very concerned about the lawsuit, and looked as if he was making serious efforts to try to get it settled.

Q. You see the next note, which is "But worse than expected."

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Now will you tell me what was said or discussed at this board meeting on the 19th tending to indicate that Mr. Hughes was scared by the lawsuit but much worse than expected?

A. Mr. Davis, I can't recall anything being said.

Q. Isn't it true, Mr. Tillinghast, that one of the purposes of the lawsuit was to scare Mr. Hughes?

A. No, Mr. Davis. The purpose of the lawsuit was to get some claims of TWA settled, and to bring an end to the warfare that then seemed to be going on, and our interest was in getting something settled, not in scaring Mr. Hughes.

Q. Look at the next entry or sentence, "They," referring to the Cahill law firm, "have concluded if get him on stand would keep him there for two or three months."

Were you or Mr. Sessel or the board of directors ever told that?

[Dep. Tr. 6579A] A. Oh, Mr. Davis, I am not sure of that. It may have been. It certainly would by my judgment, that if he were on the stand he would certainly be there a matter of months before this whole thing was unraveled, at least judging by my own experience.

[Dep. Tr. 6580] Q. What I am trying to get you to tell us, Mr. Tillinghast, is what was said at the board meeting of the 19th or any meeting which you can recall at which Mr. Sessel may have been present.

A. I don't recall, Mr. Davis. It is entirely possible, when speculated, that he would be on the stand for months once he got on, but I have no distinct recollection of it.

Q. Do you recall what was said about the general strategy of starting a lawsuit, deciding upon an antitrust cause of action, getting an order to show cause for the deposition of Mr. Hughes, the advantages of forcing talks with the

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Tool Company, and the threat of what could take place in the lawsuit—you remember that kind of a discussion?

Mr. Sonnett: Mr. Rankin, that is obviously a misstatement of the entire record, and I object to it.

It also implies some reflection on the professional standing and ethics of myself and my firm, which I resent.

The facts are not as Mr. Davis summarized them. The evidence in this record is quite clear.

Insofar as Mr. Hughes is concerned, he will be on the stand for a good two or three months, and I make no secret of that, and never have. Like anybody else, he will submit to the procedures of the courts.

[Dep. Tr. 6581] Mr. Davis, by putting argumentative and erroneous questions, is seeking to create a record which I intensely dislike.

The Special Master: I will sustain the objection to the form of the question.

Q. Do you recall whether or not at this July meeting of the board a report was made that the lawsuit would be sealed until August 1, 1961?

A. Yes, I am quite sure that the status of the sealing was reported to the meeting, Mr. Davis.

Q. Do you recall also a report being made at that same board meeting as to the effect the lawsuit had had to date?

A. On whom or what?

Q. Was there a report to that effect made, a description by you or someone else at that meeting describing the effect that the filing of the complaint had had?

A. Only, Mr. Davis, insofar as I have already testified. As I recall it, what was said at that time was that the institution of the action had been followed by very vigor-

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our talks between Mr. Bantzer and Mr. Reed, that we had the impression that Mr. Hughes was very seriously concerned about the suit, and that real progress seemed to be made in coming to some sort of an understanding, that, having in mind Mr. Hughes' unpredictability, that it would be rash [Dep. Tr. 6582] for anyone to predict what was going to happen, and that until we had a settlement that we shouldn't count on it, but that to that date things appeared to be proceeding seriously and constructively, and that there was at least a hope that we might get everything washed up and come out with a permanent settlement that would enable TWA to operate without the harassments which had marked the recent past.

Mr. Sonnett: Mr. Rankin, may I call to your attention, and for the sake of the record, the fact that on July 7, 1961 Judge Dimock of the Southern District entered an order which provided, in Paragraph 1, "The order of June 30, 1961 sealing the complaint and all other papers filed herein is hereby extended and the Clerk of this Court is directed to keep under seal the complaint and all other papers filed herein until 10:00 a.m. on August 1, 1961, subject to further order of this Court," and that that order was jointly applied for and consented to by my firm and by Mr. Davis.

Mr. Davis: That is part of the record in the file of the Court.

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[Dep. Tr. 6647] * * * A. Mr. Davis, I don't, as I say, recall any particular discussion of it at this time. I am sure, as I have already testified, the matter of an application to seal the complaint was discussed. As I recall it,

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this was all against the background of facilitating Mr. Reed's discussions with Mr. Bautzer, and putting him in a position whereby on the one hand we would not run the risks that we would run if we hadn't started the suit, and on the other hand, he would be as free as possible to carry out those things that Mr. Bautzer was requesting him to do.

My recollection of the order to show cause, and the examination and everything else, was that we were trying to get our ducks in a row, so that there was no chance of our being scooped or prejudiced by going through the period of delay which would be involved in Mr. Reed's [Dep. Tr. 6648] talking with Mr. Bautzer. I am not sure that answers your question, but that is my best recollection of the matter.

Q. Are you saying, among other things, that Mr. Reed had been discussing with Mr. Bautzer the commencement of this action?

A. No. Mr. Reed had not been, so far as I know at least, discussing with Mr. Bautzer the commencement of this action. Mr. Bautzer, as I understand it, had several times said to Mr. Reed that before this—or that when this special committee had made its report, and before TWA did anything, he hoped that he could sit down with Mr. Reed and discuss the problem, and hopefully work out some settlement of it so that there wouldn't be the need for any action.

What we were aiming to do in this whole matter was to put this thing in a posture, whereas I say, we wouldn't be prejudiced by any delays, but Mr. Reed would be in a position to explore with Mr. Bautzer what it was that Mr. Bautzer wanted to talk about.

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Q. Was there any discussion as to the probable reaction of Mr. Hughes if Mr. Sonnett were successful in obtaining an order to show cause for the taking of the deposition of Mr. Hughes?

[Dep. Tr. 6649] A. Mr. Davis, I don't recall any particular discussion of that. I would say I am sure, I think, it is very likely somebody commented on the fact that Mr. Hughes wouldn't be very happy, but I really don't recall any particular discussion about it.

Q. Do you have a general recollection as to what was said in that connection?

A. Not beyond what I have already testified to, Mr. Davis.

Q. You discussed it with Mr. Sessel and Mr. Slack, didn't you?

A. What?

Q. The probable reaction of Mr. Hughes of what he would be likely to do rather than forced to testify?

A. I don't recall discussing that with Mr. Sessel and Mr. Slack, except at one of the board meetings in July, I think it was, when we were discussing settlement of the action.

Q. Isn't it a fact that this meeting, one of those present said "This lawsuit will never go to trial because Mr. Hughes will be forced to settle this before we will be faced with that necessity"?

A. Not that I recall, Mr. Davis.

Q. Would you recall it if it had been said, in sub- [Dep. Tr. 6650] stance?

A. I think very likely I would, but I don't recall.

Q. Do you recall at the meeting Mr. Sonnett reporting that he had not completed his investigation of the facts?

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A. I am sure that in the course of the conversation Mr. Sonnett said, or somebody pointed out at that meeting that that was the fact. That the investigation of the facts hadn't been completed so far as it related to so-called equitable causes of action.

Indeed, I believe it was at that meeting, I think Mr. Sonnett observed, as he had once before, or at least once before, I guess several times before, that the relief that would be obtainable in an antitrust action would, in fact, make TWA whole for any damages that it had suffered, and that the best people were defendants in antitrust actions, and that he felt that one of the reasons for bringing an antitrust action was that it didn't have the social appropriums attached to it that some other types of action did, and he thought Mr. Reed's chances of working something out with Mr. Bautzer would be improved rather than diminished if we avoided anything that would point an unpleasant finger at Mr. Hughes personally.

Q. Did anyone suggest at that meeting that before making any final decision as to the kind of action to [Dep. Tr. 6651] bring, the investigation should be completed?

A. No.

Q. What was the conclusion of the meeting?

A. I think the conclusion of the meeting so far as Mr. Reed and Mr. Surbeck were concerned, was that Mr. Surbeck said in substance "I think you have got a good cause of action."

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**Excerpts From Transcript of Deposition of
Emmett Osborn Cocke**

[Docs. 228, 231, 233, 235]

[Dep. Tr. 1349] * * * Q. Can you tell me what was said with respect to this action authorizing Mr. Tillinghast to proceed with the filing of this complaint when in his judgment the filing is timely? Do you see that in the notes?

A. Yes.

Q. "President authorized to proceed when in his judgment the filing is timely."

A. There was a feeling expressed at the meeting that the filing of a suit by the Hughes Tool Company was imminent, and it was felt, is my recollection, that Mr. Tillinghast should have the authority to file the suit in his judgment, depending on whether he thought the Tool Company was going to file a suit, or if the Tool Company would file a suit he would be authorized to file TWA's suit.

Q. In other words to file first?

Mr. Williams: That isn't what he said. You are asking now? Is that a question?

Mr. Davis: I am asking him.

A. I recall when the suit was filed by Mr. Tillinghast, [Dep. Tr. 1350] or authorized to be filed, that at that time he indicated that he had understood that the filing of a suit by the Hughes Tool Company was imminent.

The Special Master: That doesn't answer the question, Mr. Cocke.

The Witness: I am sorry, I didn't understand the question.

The Special Master: Will you read the question?
(The question was read.)

Mr. Williams: Do you understand the question?

A. Yes, I believe that was part of the consideration.

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By Mr. Davis:

Q. Was that in effect said, "Mr. Tillinghast, you are authorized to file this suit whenever you think the Tool Company is likely to start an action, so that TWA can file its action first"?

A. That is my recollection.

Q. Of what in effect was said?

A. Yes.

Q. Can you tell me who said that?

A. I have no clear recollection of who said it.

[Dep. Tr. 1351] Q. Was there any discussion "suppose the Tool Company was not going to file a lawsuit," then this lawsuit was not going to be filed.

Mr. Williams: That is not a question.

Mr. Davis: That is my question.

Mr. Williams: Put it in the form of a question.

By Mr. Davis:

Q. Is that what was said—if the Tool Company did not file, then Mr. Tillinghast was not to file?

A. No.

Q. Can you tell me what was said at that meeting or prior to that meeting in connection with this authorization given to Mr. Tillinghast, because it is not clear to me what was taking place at that time.

Mr. Williams: Mr. Special Master, I think the witness has already said or testified as to what was said.

The Special Master: You can testify to anything in addition to what you have said, Mr. Cocke.

The Witness: I have nothing to add.

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Q. Nothing to add at all?

A. No.

Q. Was there any discussion that you recall with respect to the filing of this complaint in secrecy under [Dep. Tr. 1352] seal? Do you have any recollection of any discussion along those lines?

A. Yes. It was decided to file the complaint on, I think it's called a sealed basis, so that the possibilities of a settlement of the controversy would be greater during the period that the complaint was sealed, rather than after it became public.

Q. Do you remember any more that was said in that connection?

A. No, I can't.

Q. Do you have any recollection of anything being said by anyone relating to examining Mr. Hughes?

A. No, I do not.

Q. Nothing at all?

A. No, I do not.

Q. Do you recall any discussion or any statement by anyone relating to the probability that Mr. Hughes would settle rather than testify?

A. I recall that opinion was expressed, yes.

Q. Can you tell me who expressed that opinion?

A. No, I can't.

Q. Do you recall any discussion at all about filing that complaint at the same time, making some move to compel [Dep. Tr. 1353] Mr. Hughes to testify? Do you remember that being discussed at all?

A. No, I don't recall it.

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[Dep. Tr. 1470] • • • The Witness: Mr. Special Master, if I may at this time, I recall in reviewing my

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testimony that I had become confused. I believe I stated that the board of directors of TWA reviewed the complaint and authorized the Executive Committee to act upon it. I find in reviewing the material that I was in error. That the Executive Committee acted upon the complaint, and the board of directors then ratified the action. It just occurred to me while I was looking at this meeting, and I would like to change the record.

The Special Master: You may.

By Mr. Davis:

Q. I was asking you if by looking at this testimony of Mr. Tillinghast, that would assist you in any way recalling the circumstances of when you first saw or received a draft of this proposed complaint.

Mr. Daly: There are two questions—when he first saw it or when he first received the complaint.

By Mr. Davis:

Q. The first time you saw one.

A. I believe the first time that I saw a copy of the [Dep. Tr. 1471] complaint was several days before the Executive Committee meeting on June 29th.

Q. In other words, you have no recollection of a discussion of a draft of the complaint taking place at a board meeting?

A. I have no recollection of this being discussed or these documents being issued. I may be in error. It may have happened, but I just don't recall it.

Q. I will take that date, a few days before June 29th. My question to you now is, what recollection, if any, do

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you have of any further discussion with respect to the subject matter which was discussed at the March 1st meeting, relating to these possible claims that TWA might have against either the Hughes Tool Company or other organizations that you testified about already. I want your recollection now of any other discussion or conversation as to which you have any knowledge or information with respect to that subject matter, between March 1st and this date when you first saw this draft of the complaint a few days prior to June 29th.

A. Could I have that question read back?

The Special Master: Read the question, please.
(The question was read.)

Q. Do you understand my question, Mr. Cocke?

[Dep. Tr. 1472] A. I believe I do, Mr. Davis.

Q. Let me make myself very clear to you.

I understand your testimony that on March 1st at a meeting of the board there was a discussion in which you participated. Mr. Slack made some comments, and others there, that you already testified about, relating to damages to TWA and the desirability of hiring special counsel to investigate the relations of TWA with the Tool Company or other organizations.

You remember your testimony in that regard, do you not?

A. Yes.

Q. Then I understand that a few days prior to June 29th for the first time you saw this draft of the proposed complaint?

A. Yes.

Q. What I am inquiring about is whatever knowledge or information you have now, today, with respect to what

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discussions or conversations took place relating to that subject matter of what cause of action, if any, TWA had against the Tool Company or other organizations.

Mr. Daly: Between what dates?

Mr. Davis: Subsequent to March 1st, and up to the date when he first saw this draft of the complaint.

[Dep. Tr. 1473] Mr. Daly: Do you understand that now?

The Witness: Yes.

Mr. Davis, I think I mentioned several things that I recall discussing regarding the complaint. Whether that was at the Executive Committee meeting or whether it was prior to that or after that I have a difficult time recalling.

I have only just recalled another comment that may have been made at the Executive Committee meeting, and it may have been made at a board meeting and that was discussion in connection with whether or not the lawsuit should be filed as an anti-trust action or as a civil suit.

I recall a comment being made "If you file as an antitrust action there would be treble damages, and if you lost the antitrust action you could still then file a civil suit."

Who said that, I am trying to give you the best of my recollection—it was said at some meeting. I recall the comment being made.

By Mr. Davis:

Q. Apart from that do you have any knowledge or information, irrespective of when it took place—

A. Mr. Davis, I just cannot recall anything more. I [Dep. Tr. 1474] try.

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Cocke—Deposition

[Dep. Tr. 1625] * * * The Special Master: I am going to ask, Mr. Davis, that you ask the witness whether or not he has a recollection of the particular matter that you are inquiring about. The reason for that is, in the first place I think that should properly be established.

Beyond that I am disturbed myself at the conflict in some of these documents, and where the truth does lie amongst them. I don't want them to be used in such a way as to unintentionally persuade the witness that the facts may be in one respect when we will find sooner or later that the facts are contrary to that, as we might well suspect in regards to some of these documents.

It is very possible that someone started out to write the minutes. They kept notes one way, and later for various reasons or legal reasons decided they needed to be amplified, and the witness might say, "Well, that isn't what happened."

Mr. Davis: Mr. Rankin, I think everybody appreciates that we are not here at a trial to establish the facts. We are trying to discover [Dep. Tr. 1626] evidence with respect to what may have taken place.

I don't believe this witness is in a position of being so naive as to testify to something which he does not recall. His problem has been, as I understand it, in recalling something, and as was stated by his personal counsel yesterday, his tendency, if there was a tendency on the part of this individual witness of saying he does not remember unless in fact he did remember.

It seems to me that whether these documents correctly reflect a fact or not is not the problem and not

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the issue here. I am not trying to establish the truth of the contents of this document. I am trying to direct the witness' attention to matters, to apparent recollections of other persons, to be sure, to see to what extent his memory could be refreshed.

My question is whether or not he has any recollection or to give us whatever recollection he has as to whether or not Mr. Sonnett outlined possible courses of action which were available to the corporation, and then I will pursue that.

Mr. Daly: Let him answer that question.

The Special Master: You may answer that.

A. Yes. In looking at the minutes, and I think I [Dep. Tr. 1627] have testified before, that there was a great deal of discussion as to the way in which this action was to be taken.

I notice from the minutes, as I have testified before, that it was TWA's counsel's opinion that he agrees to the filing of the suit, but expressed a different opinion on whether it should be an antitrust, or minority stockholder type of action.

In searching my memory, Mr. Sonnett either at this meeting, and I would assume it was at this meeting because of the comments made by Mr. Rowe—that there was a discussion as to whether it should be held as an antitrust action, or whether it should be filed as a civil damage suit.

I believe I stated that one of the conversations was that it should be filed, that it was Cahill's opinion that it should be filed as an antitrust action—they felt it was an antitrust action with evidence they had discovered or studies that they had—they felt it was an antitrust action. If the antitrust action failed, the corporation could still

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fall back on a civil suit. The reason it should be filed as an antitrust suit, as was explained to me, was because in an antitrust suit you would get triple damages, but even if you lost the antitrust [Dep. Tr. 1628] suit, you could then go back and sue for damages on the other basis.

I remember that discussion. That is, as far as I can remember, is the main thing that was discussed.

There was a discussion of when the suit should be filed. The reason for this Executive Committee meeting, as I recall it, was to enable Mr. Tillinghast to have the authority to file this suit when in his judgment he felt it would be in the best interests of the corporation. The reason that was being discussed, as I think I have stated, was that there was some feeling on the part of the people at the meeting—I had no knowledge of why this came up—but that the Hughes Tool Company were going to file a suit against TWA. There was some legal comment that if TWA filed first, I think the term is that they would have the right of prior deposition.

As far as this meeting is concerned, I realize that it was an extremely important meeting—that I had reviewed the complaint, I believe a few days before. If I remember correctly, this date was June 29th, which was just before the 4th of July, but that has no bearing on what I was saying. Mr. Tillinghast wanted the authority to file this suit so that he would be able to move quickly, and it would not be necessary to have the Executive [Dep. Tr. 1629] Committee called, or to have a board of directors meeting called, but it was the feeling and recommendation of counsel that Mr. Tillinghast be authorized so that he could file this suit on his own authority, and that he had the right to do what he thought was in the best interests of the corporation.

Cocke—Deposition

I just can't think of anything further that I can add to my testimony in connection with this meeting.

Mr. Davis: Mr. Rankin, I want to point out that I have listened to the interpretation or conclusions of this witness as to the reasons for the meeting, and why people were saying various things at this juncture, and I understand the only purpose of my examining this witness at this time was to see to what extent he had a recollection of what in fact transpired.

What I would like to do—perhaps his counsel could elicit it more easily from him, having had the benefit of private discussions and consultations with the witness—is whether or not this witness has a recollection of the substance of what Mr. Sonnett said, what Mr. Tillinghast said, of what Mr. Rowe said, or Mr. Sessel who was present at the meeting said, so that we can get the facts.

[Dep. Tr. 1629A] If he is unable to do that, I will accept that as having given him a fair opportunity to identify what was said.

[Dep. Tr. 1630] Mr. Daly: Mr. Davis, I am sure that Mr. Cocke has given you his best recollection of everything that he remembers about this meeting. If you want to go ahead and ask him does he remember what somebody else said, what "A" said, what "B" said, what "D" said, I certainly have no objection to it.

It is possible that the mention of some name might spark a recollection that he doesn't have at this time, but I think up to this moment at least, you have certainly exhausted his recollection of what occurred at this meeting, and he just can't tell you anything more.

Cocke—Deposition

If you have something that might refresh his recollection, show it to him. We have spent now two days on this meeting, and all I have heard all day is Mr. Cocke repeating precisely what he said before.

Mr. Davis: When I show him something, you feel that what I show him may not be proven or established and you feel it is not fair to the witness.

Mr. Daly: I have never made an objection on that score at all. What I objected to was your assuming in your question that something was established. You have a perfect right to show Mr. Cocke anything that might refresh his recollection.

[Dep. Tr. 1631] You can go out and pull a door in from outside and pull it in here, and if that will refresh his recollection, you can show it to him. I haven't made any objection on that ground.

What I have objected to is that you are assuming on the record that a certain state of facts exist. Anything that you have to show Mr. Cocke that will refresh his recollection, you show it to him, and I at no time ever objected to that.

But I do object to assumptions in your questions, because that is the sort of thing that gets a witness into trouble.

If you have anything, show it to Mr. Cocke. I will certainly have no objection, but I do have objection to your stating when you are showing him something that this is something that says something that is so.

I don't know that it is. It may or may not be. But if it refreshes Mr. Cocke's recollection, show it to him. That has been the only basis for my objection.

The Special Master: Mr. Cocke, I am interested in whether or not you can remember what anyone

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said at this meeting, any individual, beyond what you have [Dep. Tr. 1632] already told us.

Mr. Tillinghast, Mr. Sonnett—just take them one at a time—all those that you know were there—and tell me whether you can remember what any of them said.

Mr. Barr: Mr. Special Master, it is clear that Mr. Cocke in the answer that Mr. Davis just characterized did tell us some of the things at least that Mr. Rowe said, and some of the things at least that Mr. Sonnett said, and some of the things that Mr. Tillinghast said. I can remember him telling about Mr. Tillinghast's introduction.

The witness has not failed, as Mr. Davis suggests, to tell us anything about the substance of what was said at the meeting. He said what these people said on many occasions.

I certainly am interested, as you are, in finding out if he knows anything in addition to this, but I just want it to be clear on the record, at least in my mind the witness has told us the substance of what at least some people had said, at least a part of what some people said.

The Witness: Mr. Special Master, I just do not recall a detailed discussion at this meeting on this complaint. I just don't recall it was gone over [Dep. Tr. 1633] in detail.

I say it may have, but I don't recall it. I am sure if there had been a lot of discussion I should have recalled it.

I would say that in reading the complaint, I did not understand the complaint. There were allegations of antitrust action, and buying and selling of airplanes.

Cocke—Deposition

I am just not able to make any comments on the right or wrong of what was done, and I just in my own mind, because I don't recall detailed conversations—as I said before, I think, the meeting only lasted two hours. We discussed two other subjects at the meeting.

I notice some place here that Mr. Sessel left at 12:45. If there was a detailed discussion at this meeting, I just do not recall it, sir.

By Mr. Davis:

Q. Do you recall any statements made by anyone relating to the desirability of trying to obtain some kind of a divestiture of the Tool Company's holdings in TWA?

A. I am familiar that the question of divestiture is in the complaint. I recall being told or of reading some place that under an antitrust action was the only way in [Dep. Tr. 1634] which divestiture could be accomplished. Again, whether it was talked about at this meeting or if I read it some place, or if someone told me, I am familiar with and remember the fact that in an antitrust action that was the only action in which Mr. Hughes could be forced to divest himself of his stock in TWA.

Q. Do you have any recollection of anything that was said relating to the desirability or lack of desirability of filing the complaint under seal?

A. There was some discussion as to whether or not the complaint should be filed under seal, and it was felt in the best interest of the corporation, and I certainly agreed with this, that if there was any possibility of avoiding a litigation—and before this time I did not know such a process was possible—that it was possible that the suit could be filed and sealed.

Cocke—Deposition

As I recall, from what I was told, or what my knowledge of it is, if the case was sealed and there was no publicity on it, in that kind of situation, which I can well understand, it would be a great deal simpler to reach a settlement of the differences of the two parties rather than after it had been unsealed and the case had started, and things had happened, where people said things. That it would certainly make it more difficult to reach a settlement [Dep. Tr. 1635] than when it was sealed.

Whether it was at this time—I certainly felt that filing it under seal, if that should be done, it certainly would be fine as far as I realized it, because I felt that I did not like to see TWA as an airline become involved in litigation.

Q. In your answer you have referred to how you felt. I can understand that. What I am interested in knowing, Mr. Cocke, is whether you are able to testify as to what was said, or the substance of what was said by anyone there present at the meeting?

Mr. Daly: Could you ask him whether he expressed that feeling to anybody at the meeting?

A. I am sure I expressed that feeling. I can't say whether it was at this meeting that I expressed the feeling.

In listening to whatever discussion someone was telling me about the fact that it would be filed and sealed, I don't recall anyone objecting to filing it under seal.

I think it was the consensus of everything that I heard anyone say that this would be the best thing to do in the hopes that this litigation could be avoided and a settlement could be reached before it broke open to [Dep. Tr. 1636] public knowledge.

Cocke—Deposition

By Mr. Davis:

Q. What was said with respect to the possibility of obtaining a settlement? Do you have any recollection of what anyone said at that meeting relative to that subject?

A. I would like, Mr. Davis, to say that these recollections, I would not be characterized or have it said that it actually happened at this meeting.

I am trying to give my best recollection to the questions that you ask me. In the discussions as to how the settlement was to be arrived at, whether it was at this time or later, there were many discussions and many ideas or proposals to settle the litigation.

I remember that there was, I believe, a settlement, where it appeared it was going to be settled the day before.

Mr. Daly: The day before what?

The Witness: The day before the suit was unsealed, if that is the proper term. I recall in reviewing this material that there was a deadline set by TWA of acceptance, I believe, at 9:00 o'clock in the morning, before it was unsealed.

I recall there was a difference of opinion between Mr. Bautzer and Mr. Davis. In the notes that I [Dep. Tr. 1637] reviewed—I was either told or read some place that Mr. Bautzer indicated he would be willing to settle on that basis, and Mr. Davis said he would not be willing to settle on that basis. No agreement was reached, and the decision was made by TWA to unseal the suit.

By Mr. Davis:

Q. I am primarily interested in the discussion that took place at the time this decision was made on June 29th, Mr.

Cocke—Deposition

Cocke. Do you have any recollection of what, if anything, was said about what efforts would be made to obtain the deposition of Mr. Hughes?

A. Again I am not limiting myself to this meeting. There was discussion that I recall, that one of the reasons TWA was to file the suit first was to obtain the right of prior deposition.

I am not completely familiar with these legal terms, but I can only say that it was obvious if TWA had the right of prior deposition, that the deposition of Mr. Hughes would be taken before the deposition of any of the TWA witnesses.

Q. What I am interested in is what was said in that connection, if anything was said in that connection. Is there anything else you recall?

[Dep. Tr. 1638] For example, did anyone say anything to the effect that if a court order was obtained for the deposition of Mr. Hughes, that would insure a settlement on particular terms, or anything like that?

A. There had been discussions that if it was necessary for Mr. Hughes to make the deposition, that there would be a probability that it would be easier to reach a settlement, yes.

Q. Do you recall anyone saying anything about Mr. Hughes' attitude about taking his deposition, or what he would do or not do depending on whether or not his deposition was ordered?

A. There have been discussions as to the opinion, and I believe Mr. Slack made the statement, that if Mr. Hughes would not want to make a deposition, and that if he was forced to make a deposition, or that when that time came the possibility of settlement would be greater.

Cocke—Deposition

Q. Did anyone say anything at that time with respect to what tendencies or inclinations Mr. Hughes had displayed in the past, or was anything said in that area as to what would be likely to happen, what Mr. Hughes would be likely to do?

A. Some people—I think Mr. Slack, and I am not sure who else—had the feeling that Mr. Hughes would not want [Dep. Tr. 1639] to make a deposition.

I recall, in thinking over this, that I disagreed with that opinion. I brought up the fact that Mr. Hughes had made a deposition in Washington many years ago in connection with Senator Brewster, and I didn't have the same opinion, that Mr. Hughes would feel that a settlement would be made if it was necessary for him to make a deposition.

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[Dep. Tr. 1646] have any recollection of what was said by anyone relating to the desirability for obtaining a divestiture order, or the reasons for wanting a divestiture order, or anything in that area?

A. I believe the reasons that I recall was the fact that Mr. Hughes controlled 78 per cent of TWA, and that there were problems that had been involved in connection with the control of TWA by the Hughes Tool Company.

Mr. Davis: May I have the answer read to me?
(The answer was read.)

By Mr. Davis:

Q. Can you identify what was said with respect to either the problems or control?

A. I would in substance say that the problem because of the fact that Mr. Hughes or the Hughes Tool Company would not agree to the financing plans that had been offered by the lenders.

Cocke—Deposition

Mr. Daly: This was the substance of what was said by somebody to you at some time, is that right? Is that what you want to know?

Mr. Davis: I want to know what was said. I don't want your interpretations.

A. In substance I recall that comment being made.

Q. You don't know by whom?

[Dep. Tr. 1647] A. I don't know where or who made the comment. It was a discussion of the Hughes' problem. That to the best of my recollection is the substance of what was told me of the Hughes' problem.

Q. Do you recall anything being said as to whether or not there would be more or less social stigma or social opprobrium in bringing an antitrust action rather than some other kind of action?

A. No, I do not.

Q. In your prior answers you made a number of references to Mr. Slack. Can you identify more clearly what your recollection is as to what Mr. Slack said that relates to the testimony you gave with reference to Mr. Slack?

A. I don't believe I can. I think, as far as my recollection is concerned, I testified in substance as to the comments Mr. Slack made as to the various questions that came up.

Q. Can you identify more than you already have the nature or substance of what Mr. Slack said, when, to whom?

A. As I recall it, I have stated that I recall Mr. Slack had stated that he didn't feel that Mr. Hughes would agree to any settlement of the litigation until he was called upon to make a deposition.

I think I have also said—I may not have Mr. [Dep. Tr. 1648] Slack, I think as I recall it, commented that he did not feel that the antitrust action was the right action to have filed. He felt that it wasn't an antitrust suit, that it was a civil suit.

Cocke—Deposition

Q. Can you identify a little more clearly or more specifically what your recollection is as to what Mr. Slack said with respect to the kind of a claim that TWA had against the Tool Company?

A. No more than what I have said. I believe I testified that Mr. Slack felt that because of the delays in the financing which delayed the equipment, and which caused the damages to TWA, that there was a basis for a claim for damages from the Hughes Tool Company.

Q. I am interested in your prior answer relating to Mr. Slack's remark relating to his thinking that the antitrust action was not the proper or right action. I am interested in getting your complete total recollection of what Mr. Slack said in that area.

A. I don't recall his exact words. I said, as I recall, Mr. Slack making that comment that he felt that the antitrust suit was not—in effect, the question of whether there was an antitrust action.

Q. That is all?

A. That is the substance of the conversation.

[Dep. Tr. 1649] Q. Was that a conversation with you that you recall, or was that something said at a meeting of some kind that you recall, or can you identify more clearly the circumstances under which that comment was made?

A. May I go off the record for a minute, Mr. Special Master?

The Special Master: Yes.

(The witness conferred with Mr. Daly.)

Mr. Daly: Mr. Cocke has just told me he is somewhat concerned that perhaps the question would lead to answers that the plaintiff would want to claim privilege on. Isn't that the problem? Let me go into conference again.

Cocke—Deposition

(Mr. Daly conferred with Mr. Cocke.)

Mr. Daly: It is a question of possible privilege. I don't know and I don't make any representation that it is privilege.

Mr. Davis: Isn't it a fact that all the witness is concerned about is whether or not he recalls comments or conversations which may have taken place after the lawsuit was started?

Mr. Daly: That is right. He doesn't know either, but he is concerned that you may be going into a privileged area, and he thought it should be [Dep. Tr. 1650] called to the attention of the people here. He just doesn't want to do anything improper.

The Special Master: Mr. Zeller, in regard to that, is there any claim by the plaintiff that Mr. Slack acted as counsel in connection with any of these matters?

Mr. Zeller: No, your Honor.

The Special Master: He was only a director.

Mr. Zeller: And acting as such, like a good many other men who have been lawyers in the past, they have a hard time forgetting their legal knowledge.

The Special Master: I will instruct you, Mr. Cocke, insofar as any communications with Mr. Slack are concerned, they are not claimed by counsel for TWA to be privileged, and so you may relate those so far as you recall them.

A. I recall Mr. Slack making comments at a board meeting, the substance of which I have related, the question in his mind as to whether the antitrust approach substance was not a proper action—whether there was a legal basis for an antitrust suit.

(Mr. Cook entered the hearing room.)

Cocke—Deposition

By Mr. Davis:

[Dep. Tr. 1651] Q. My question is to try to develop a little more clearly the nature or substance of what was said, rather than your conclusion.

Mr. Daly: I do object to two characterizations there. First, I think what he said was very clear, and secondly, I don't think he was giving conclusions. He was giving the substance of the conversation.

The Special Master: I will sustain the objection.

By Mr. Davis:

Q. Can you give us any more of the substance of the conversation than you have?

A. I don't believe I can. As I said, the substance was, I recall Mr. Slack making a comment that he didn't feel this was an antitrust action.

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[The following document, which is not part of the Record of this case, has been printed in this Joint Appendix at the instance of defendants.]

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

Civil Action No. 2018/1963

MARY RICKMAN JONES, individually and as a stockholder of
URIS SALES CORPORATION, suing on behalf of herself and
all other stockholders of URIS SALES CORPORATION,
Plaintiff,

—against—

URIS SALES CORPORATION, and MORTON PENN,
Defendants.

REPORT OF SPECIAL MASTER

I. *The Complaint, the Judgment and Order of the Court.*

This is an action brought by plaintiff individually and as a stockholder of Uris Sales Corporation ("Uris") on behalf of herself and all other stockholders of Uris against Uris and Morton Penn ("Penn"). It is important at the outset that the allegations in the complaint and the prayer for relief in the complaint be carefully examined because of the law which is applicable in cases like this in which defendants' answer has been stricken.

Plaintiff alleges that Penn made certain representations to her on the basis of which she bought 50% of the stock of Uris, which was engaged in the business of selling and supplying merchandise to post-exchange establishments in

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military camps and installations. Among the representations were "that he would use the monies paid by the plaintiff for said stock as part of its capital and apply same for and towards clearing all of its then liabilities . . . " (Par. 5). Plaintiff claims that the representations were false and fraudulent in that Penn "did not use or intend to use the monies paid to him by plaintiff for said stock as part of the corporation's capital or for or towards the development or expansion of its business . . . " but "wrongfully and fraudulently conducted and managed the affairs and business of said corporation so as to divert its assets, business, customers, profits and benefits from defendant corporation to his own benefit and advantage by various schemes, artifices and devices, among them those herein-after set forth" (Par. 7); that Penn organized other corporations owned or controlled or in which he had a financial interest for the purpose of engaging in the same or similar business as Uris and diverted to such business enterprises opportunities properly belonging to Uris (Par. 8(a)); that he concealed the assets and proceeds of the defendant Uris to deprive the stockholders of their rightful share and interest in Uris (Par. 8(b)); that he manipulated and falsified the books of Uris to make it appear that the corporation was indebted to him and to hide and conceal loans made to Uris by plaintiff (8(c)); that he prosecuted a system of fraud and forgery by which he withdrew or charged substantial sums to Uris for non-corporate purposes (8(d)), that he refused to grant plaintiff access to the books and records of Uris (8(e)) and that he "committed other wrongful schemes, frauds and irregularities at present unknown to the plaintiff." (8(f)).

Plaintiff in her prayer for relief asks for judgment (1) "directing the defendant Morton Penn to account to the

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defendant corporation for all assets, monies, profits, business opportunities lost, wasted, dissipated, embezzled or diverted from the defendant corporation by him", (2) "directing the defendant Morton Penn to restore to the defendant corporation the amounts lost, dissipated, embezzled or diverted from the defendant corporation together with appropriate interest thereon", (3) directing that a trust be impressed upon the assets of businesses in which Penn has an interest, (4) restraining Penn from paying any further sums to himself from the assets of defendant, (5) appointing a receiver, and (6) awarding plaintiff and her attorneys allowances for fees, costs and disbursements.

The order of Hon. Lloyd F. MacMahon, dated November 12, 1964, directed that the answer of defendant be stricken, that plaintiff be awarded judgment for the relief demanded in the complaint together with costs and disbursements, that Penn be fined \$500.00 for his misconduct and contempt of court, and appointed me as Special Master to determine and assess the damages and relief to which plaintiff is entitled and to report to the Court. Defendants appealed from the order and asked that the proceedings before me be stayed. I was advised, in February 1965, that the Court of Appeals had denied defendants' application and I then scheduled hearings.

II. Proceedings Under Order of Reference.

Testimony was taken during 10 hearings held in my office commencing February 24, 1965 and ending August 19, 1965.

The transcript is over 547 pages (the pages were incorrectly numbered by the reporter). Plaintiff submitted 51 exhibits, several of which consisted of many documents. Defendants submitted 9 exhibits. Plaintiff called 14 witnesses and the defendants 2. At my request, the attorneys, during the hearings, held many conferences, in several of which I participated, which resulted in stipulations which

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shortened the record considerably. Plaintiff has submitted to me a 57-page memorandum of fact to which is attached a 13-page memorandum of law and 5 appendices. Defendants have submitted a 56-page memorandum.

Attached hereto as Appendix A are my rulings on all matters with respect to which I reserved rulings during the hearings.

III. The Issues.

A. Preliminary Statement.

Plaintiff's claims for money damages fall into two broad categories. The first category consists chiefly of individual transactions between plaintiff and Penn, which plaintiff claims resulted in damage to her. The second category consists of plaintiff's claims that Penn diverted corporate opportunities to other of his businesses to the damage of Uris.*

B. General Principles of Applicable Law.

Rule 54(c) of the Rules of Civil Procedure provides:

"(c) Demand for Judgment. A judgment by default shall not be different in kind from or exceed in amount that prayed for in the demand for judgment. Except as to a party against whom a judgment is entered by default, every final judgment shall grant the relief to which the party in whose favor it is rendered is entitled, even if the party has not demanded such relief in his pleadings."

Moore's Manual of Federal Practice and Procedure states:

"A default judgment cannot give to the claimant greater relief than the pleaded claim entitles him to; and Rule 54(c) provides that such a judgment 'shall

*Although plaintiff does not, in the complaint, ask for damages to herself as an individual, in her memorandum she asks for "individual judgment in favor of plaintiff". (p. 55-56).

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not be different in kind from or exceed in amount that prayed for in the demand for judgment.' Since the prayer limits the relief granted in a judgment by default, the prayer must be sufficiently specific that the court can follow the mandate of the Rule.

"Judgments by default are of two kinds: for want of appearance; for failure to plead or otherwise defend as provided by the rules, although the party has appeared in the action. It is arguable that, as a matter of policy, the limitations of the Rule should apply only to a judgment by default for want of appearance and not to a default judgment where the defendant has appeared. In the latter situation a party who has put in an appearance is entitled to receive notice of all proceedings in the action, including a written notice of the application for judgment at least 3 days prior to the hearing on such application; and only the court can render the default judgment where the defending party has appeared. These factors would warrant a rule authorizing the court to render such a judgment as the complainant proved himself entitled to, no matter what the initial pleading may have requested. But Rule 54(c) does not go that far; it makes no distinction in the type of judgment by default; and hence all judgments by default are subject to its limitations." (§25.04 (7) at pages 1839-40).

It would seem, therefore, that when a defendant's answer is stricken for contempt and he is in default, the judgment cannot be different in kind from that prayed for in the demand for judgment.

The general rule is that a defendant in default is foreclosed from contesting the truth of any of the allegations in the complaint. This is true when the allegations of a

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complaint are definite, distinct and positive, but when the allegations of a complaint are indefinite and the demands of the complaint are in their nature uncertain, the requisite certainty must be afforded by proof. *Thomson v. Wooster*, 114 U.S. 104 (1885); *Ohio Cent. R. Co. v. Central Trust Co.*, 133 U.S. 83 (1890); *Clifton v. Tomb*, 21 F.2d 893 (4th Cir. 1927); *State Reserve Bank v. Swift & Co.*, 32 F.2d 590, 593 (8th Cir. 1929). In the *Ohio Central* case, the Court said:

"The bill was taken as confessed; but that fact did not, in itself, justify giving complainant more than it claimed. In *Thomson v. Wooster*, 114 U.S. 104, 5 Sup. Ct. Rep. 788, the general nature and effect of an order taken on a bill *pro confesso*, and of a decree *pro confesso* regularly made thereon, and of our rules of practice on the subject, are discussed in the opinion of the court by Mr. Justice BRADLEY; and it is there held that under the rules and practice of this court in equity 'a decree *pro confesso* is not a decree as of course, according to the prayer of the bill, nor merely such as the complainant chooses to take it; but that it is made, or should be made, by the court, according to what is proper to be decreed upon the statements of the bill, assumed to be true.' If the allegations are distinct and positive, they may be taken as true without proof; but if they are indefinite, or the demand of the complainant is in its nature uncertain, the requisite certainty must be afforded by proof. But in either event, although the defendant may not be allowed, on appeal, to question the want of testimony or the insufficiency or amount of the evidence, he is not precluded from contesting the sufficiency of the bill, or from insisting that the averments contained in it do not justify the decree. Under the eighteenth rule in equity, where the bill is taken *pro confesso*, the cause is proceeded

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in *ex parte*, 'and the matter of the bill may be decreed by the court;' and hence, if a decree be passed not confined to the matter of the bill, it may be attacked on appeal for that reason." (113 U.S. at p. 90).

It is important to consider the above principles of law in evaluating plaintiff's claims for damages other than the claim asserted in connection with the allegation that Penn diverted corporate opportunities from Uris to his other companies. With respect to the diversion of corporate opportunities, it is clear that plaintiff alleges such diversion in her complaint clearly and positively (Par. 7) and that she asks for appropriate relief in the prayer in her complaint (WHEREFORE clause, Par. 1). The principles of law which are applicable in connection with the damages claimed as a result of the diversion of corporate opportunities will be discussed below.

C. The Damages Claimed by Plaintiff other than those Claimed to be the Result of a Diversion of Corporate Opportunities.

1. The \$70,042.71 Claim.

The June 30, 1953 balance sheet of Uris (P. Ex. 2)* lists a debt due from Rickman Sales Company in the amount of \$70,042.71. Rickman Sales Company was owned by Penn (MM p. 9-10).** Plaintiff in her memorandum claims that Penn "took" this amount from Uris "for his solely

* Reference is made to exhibits introduced at the hearing before the Special Master.

** Unless otherwise indicated, reference is made to the pages of the transcript of the testimony taken before the Master (Master's Minutes). The testimony referred to here was given by Penn on his examination before trial and was read into the transcript of the hearings before the Master. The reference to the page number of the transcript of the depositions before trial is not repeated in this report.

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owned Rickman company". The only testimony that plaintiff cites in her brief in support of this claim is that Penn never tried to collect this amount from Rickman Sales Company for Uris "Because Rickman never had the money to pay it back." (P.'s brief, p. 3). An examination of the complaint discloses that there is no allegation to which this claim of damage can be associated. Penn is accused in the complaint of concealing assets, of falsifying records and withdrawing funds for non-corporate purposes but this claim does not fall within any of those allegations. If it is plaintiff's position that she is entitled to recover this claim under the broad allegations in Par. 8(f) that Penn "committed other wrongful schemes, frauds and irregularities ..." she would be required under the Rules set forth in the *Thompson* case and other cases cited (*supra*, p. 7) to prove the charges. There is no proof submitted. The only evidence is that Penn failed to take steps to collect a debt which, as far as the proof goes, was uncollectible. Accordingly, I find no damages for plaintiff in connection with this claim.

2. The \$3,491.96 Claim.

The balance sheet of Uris, dated June 30, 1963 (P. Ex. 2) shows that Penn owes Uris \$3,491.96. This appears to be a loan from Uris to Penn. There is no indication that this loan was authorized by the stockholders of Uris as required by §714 of the Business Corporation Law of the State of New York. Although the loan was unauthorized the borrower is obligated to repay it. This act of Penn as a director of Uris in loaning himself money without stockholder approval is, at the very least, an "irregularity" as alleged in the complaint (Par. 8(f)) and a "diversion of funds" which plaintiff in her prayer for relief asked that Penn

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restore to Uris "with appropriate interest". There is no indication when this money was loaned to Penn but the loan does appear on the June 30, 1963 balance sheet, so the loan was made on or before that date. I find that Penn should restore to Uris the amount of \$3,491.96 with interest computed at the rate of 6% per annum from June 30, 1963 to the date of such restoration.

3. The \$6,827.71 Claim.

On the June 30, 1963 balance sheet of Uris it appears that Uris owes plaintiff \$6,827.71 for monies loaned to Uris by plaintiff. Plaintiff does not claim any wrong-doing on the part of the corporate defendant Uris or by Penn. All that is claimed is a debt owed by Uris to plaintiff. There is nothing in the prayer for relief which would apply to this claim. Accordingly, I find plaintiff is not entitled to recovery of this amount.

4. The \$79,692.87 Claim.

This claim is made up of several small claims lumped together without any attempt made to tie in the claims with the allegations made in the complaint or with the prayer for relief.* It will be necessary, therefore, to examine each individual claim and, where possible, to place each claim in an appropriate classification.

(a) The \$15,000 check, dated March 27, 1951 (P. Ex. 3).

Plaintiff's Exhibit 3 is a check dated March 27, 1951, from plaintiff, payable to Penn and endorsed "Morton Penn, Post Merchandise Corp." There is a conflict in

* When these individual claims are added, they amount to a slightly higher figure than the \$79,692.87 amount asserted by plaintiff.

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the testimony whether this was a loan to Penn or a gift. Plaintiff claims that it is a loan. I find that the \$15,000 check was, as indicated on its face, a "loan" which plaintiff expected to be repaid to her (MM 26-27) and which Penn treated as a loan and repaid in part (P. Ex. 1). There is no prayer in the relief demanded that money loaned by plaintiff to Penn be returned to her. Accordingly, I find that plaintiff is not entitled to recover on this claim."

(b) The check dated March 16, 1951 for \$200 (P. Ex. 4).

Plaintiff gave Penn a check for \$200 so that he could "come down and talk over business with me. He said he would see that I was repaid in time to come." (MM 27). This was the day before plaintiff made Penn the \$15,000 loan referred to in subparagraph (a) above. This amount would seem to be a gift or at best a loan. In either case, there is nothing in the prayer for relief which would entitle plaintiff to recover this amount.

(c) The check in the amount of \$15,000, dated January 5, 1952 (P. Ex. 5).

Plaintiff testified that this amount was in payment for the stock to be issued to her and that it was needed to pay "the lawyers in the bankruptcy and pay off the creditors, part of it" (MM 32). The check was endorsed by Sydney Basil Levy who represented creditors of the corporation. Since the check offered in evidence by plaintiff indicates on its face that it was used for a valid corporate purpose, it is difficult to see how Penn could have diverted to his own benefit this money paid to him by plaintiff for her stock. Even if I assume that the complaint is definite and certain with respect to the allegation that Penn wrongfully diverted money

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paid to him for the purchase and sale of stock and therefore Penn cannot offer any testimony on his own behalf with respect to this transaction because his answer has been stricken, I cannot ignore the fact that the proof offered by plaintiff herself shows that this money which was to be in part payment for her stock was not used for a fraudulent purpose, but indeed was used for a legitimate corporate purpose. Accordingly, I find that plaintiff cannot recover damages with respect to this claim.

(d) The \$15,000 cash which plaintiff claims she gave to Penn on January 5, 1952, the same day she gave Penn a check for \$15,000.

Plaintiff testified that she paid Penn \$15,000 in cash on January 5, 1952, the same day she gave Penn the check for \$15,000 referred to in subparagraph (c) above, and that she received from Penn a receipt for the cash, which recites that it was for the purchase of stock. The receipt was read into evidence (MM 36-37). Plaintiff testified "this was by cash. He got this the same day he got the \$15,000 for the lawyer. This is for the stock. He said he had to have this cash to give to his aunt because she wanted cash". Penn denies receiving this money and claims that the receipt was for the \$15,000 check which he received the same day. I find that plaintiff paid Penn the \$15,000 in cash for the stock. Unlike the \$15,000 check dated the same day, January 5, 1952, which on its face, and which plaintiff's testimony indicates, was used for a valid corporate purpose, there is no acceptable evidence that the \$15,000 cash was used for a valid corporate purpose. Since plaintiff alleges in her complaint specifically that she paid Penn money for stock which was

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diverted from Uris to Penn for his own benefit (Par. 7), since her prayer for relief asks that this money be restored by Penn to the corporation and since defendants' answer is stricken, I must find that these monies were wrongfully diverted and that Penn be directed to account to Uris for this amount of \$15,000, with interest computed at the rate of 6% per annum from January 5, 1952 until such restoration.

(e) Various checks and money orders totalling about \$5,000 (P. Exs. 7, 8, 10, 13, 14 and 18).

These checks and money orders were sent by plaintiff to Penn "at his request under the same conditions." (MM 40-51). Plaintiff's testimony as to the requests by Penn for money and "the conditions" under which the money was sent to Penn is:

"Q. Mrs. Jones, did Mr. Penn from time to time—did you have conversations with Mr. Penn from time to time about money?

A. Yes, I did.

Q. What did he say to you?

A. He asked me what kind of partner was I? Didn't I trust him. He said he had to have money to operate the business. He said I should either wire to him or send him a check to help him along.

Q. Did he tell you who was going to repay the money?

A. He said the corporation and him would be responsible for it and I would get every penny back that I ever put in it and that he was giving me credit all the time for it." (MM 41-42).

There is no claim here that these monies were paid by plaintiff for stock in Uris. In her brief plaintiff

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does not state which allegations in the complaint pertain to these monies or where in the prayer for relief she claims to be entitled to a recovery of these monies. There is no attempt to prove that these monies were used for other than valid corporate purposes or were used for Penn's own benefit. If it is plaintiff's claim that the allegations of Par. 8(f), that Penn "committed other wrongful schemes, frauds and irregularities ..." then there was an obligation on plaintiff to submit proof to that effect and no proof was offered. Accordingly, I find that plaintiff is not entitled to recover with respect to these monies.

(f) Western Union receipt for \$1,000, dated August 31, 1963 (P.Ex. 19).

This appears to be an advance against commissions earned by Rickman Sales as the selling agent of Rickman Manufacturing Company. Claims for other such monies were withdrawn by plaintiff and it appears that plaintiff inadvertently failed to include this \$1,000 item in the other withdrawals. If it were not intended to be withdrawn and plaintiff still asserts a claim with respect to this money, it would fall into the same category of claims discussed above in subparagraph (e) and, like the others, is disallowed.

(g) Check in the amount of \$4,000, dated April 2, 1958 (P.Ex. 20).

The cash receipts journal of Uris reflects \$4,000 as a loan payable to plaintiff. If it is a loan then it is not covered by the allegations in the complaint or in the prayer for relief. If it is not a loan it is, on plaintiff's testimony, money forwarded to Penn at his request, "under the same conditions" (MM 50) and falls under

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the same category as those claims described in subparagraph (e) above, which are disallowed.

(h) Check in the amount of \$2,500, dated November 1, 1953 (P.Ex. 21).

Plaintiff testified that this check, payable to "City Motors", was given in order to buy a station wagon needed by a salesman of Uris. "I bought the station wagon and paid for it." (MM 51-52). There is no allegation in the complaint or any prayer for relief which could possibly permit plaintiff to recover under this claim.

(i) Check in the amount of \$3,500, dated June 15, 1953 (P.Ex. 22).

This is a cashier's check the proceeds of which were turned over to Penn. This money was, according to plaintiff "requested by Mr. Penn under the same conditions" as the money represented by the checks and money orders described in subparagraph (e) above (MM 52). Even if we assume that Penn did receive this money, this claim would fall into the same category as those described in subparagraph (e) above and is disallowed.

(j) Check in the amount of \$750, dated November 12, 1954 (P.Ex. 23).

Like the check described in subparagraph (i) above, this was a cashier's check the proceeds of which plaintiff claims were turned over to Penn. No evidence at all is submitted with respect to the proceeds of this check not even that they were "requested under the same terms and conditions". This claim is disallowed.

(k) Four checks made payable to "Cash", in different amounts and on different dates, totalling \$3,000 (P.Exs. 24A, B, C and D).

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These checks, payable to "Cash", were endorsed by plaintiff's bookkeeper and, according to plaintiff, the proceeds were turned over to Penn when he visited her in Salisbury, North Carolina. Plaintiff testified that this money, like the other monies described above, was requested by Penn and transmitted to him "under the same conditions" (MM 53-54). Even if we assume that the proceeds of these checks made payable to "Cash" were turned over to Penn, plaintiff's claims with respect to damages must be disallowed.

(l) Check in the amount of \$6,000, dated January 19, 1952, payable to "Mary Rickman" (P.Ex. 25).

This check is made payable to plaintiff's own order. Again, she testified that she "transmitted" the monies to Penn, who "requested them under the same conditions". Here, however, plaintiff adds that Penn needed the money to pay off the creditors of Uris Sales, that it was going to run better than \$24,000 (MM 55). Even if we assume that the proceeds of this check were turned over to Penn, as plaintiff testifies, there is no proof or attempt to prove that the monies were used for anything but a legitimate corporate purpose. Accordingly, this claim is disallowed.

(m) Four checks, payable to "Cash" or to plaintiff, totalling \$10,700 (P.Exs. 26A, B, C and D).

These four checks were made payable either to "Cash" or to the order of plaintiff. Three are dated in the spring of 1956 and the fourth in the spring of 1958. Plaintiff testified that she gave this money to Penn for travelling expenses. "I advanced it to him. He said he and his corporation, our corporation, would stand good for it and that we would make lots of money

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with it". Again, plaintiff does not try to associate how this claim fits in with the allegations in the complaint and the relief demanded in the complaint. If, as plaintiff indicates, these monies were "advanced" to Penn and plaintiff claims that the advances constituted a loan which should be returned to her, there is no prayer in the complaint for such relief. Under all the circumstances, I find that this claim should be disallowed.

(n). Three checks, payable to "Cash" or to the plaintiff, totalling \$2,000 (P.Exs. 27A, B and C).

Again, even if we assume that the proceeds of these three checks which were made payable either to "Cash" or to plaintiff were transmitted to Penn they were, according to plaintiff, transmitted by her to Penn "At his request and under the same conditions" and must fall within the category of the claims described above in subparagraph (e), which were disallowed.

5. The \$52,799.06 Claim.

Apparently, it is plaintiff's contention that some of the monies transmitted to Penn by her as described above were treated on the corporate books as "loans payable to Morton Penn" in the amount of \$52,799.06 instead of being credited on the corporate books as monies advanced by plaintiff (P.'s brief, pp. 10-22). Plaintiff in her brief asked for "Individual judgment in favor of the plaintiff against Uris Sales Corporation for \$52,799.06, which is shown on the books as due to Morton Penn, but which is really money of the plaintiff, and an order cancelling and discharging the entry as due from Uris Sales Corporation to Morton Penn." (p. 55). Plaintiff read into the record parts of the transcript of Penn's examination before trial in which

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he admitted the possibility that some part of the \$52,799.06 reflected on the books of the corporation as a loan to him could have been monies advanced by the plaintiff (MM 21-22). Even if we assume that the allegation in the complaint which accuses Penn of falsifying books and records (Par. 8(c)) is applicable and that some of the monies advanced by plaintiff appear on the books of Uris as loans from Penn to Uris, the relief demanded by plaintiff in her memorandum that Uris pay her money individually cannot be granted. Nowhere in her complaint does plaintiff ask that Uris, the corporate defendant, repay any loans or monies advanced by her to the corporation, and I cannot find that plaintiff is entitled to something that she does not ask for in her prayer for relief (*supra*, pp. 5-7). Whatever plaintiff's claims may be with respect to this amount, and it is indeed difficult to determine precisely what her claims are, they are disallowed.

D. Plaintiff's Claim with respect to Alleged Diversion of Corporate Opportunities.

Plaintiff alleges "distinctly" and "positively" that Penn diverted corporate opportunities which belonged to Uris to corporations or businesses in which he owned, controlled or had a financial interest and thereby realized earnings and profits to which "defendant corporation is rightfully entitled". (Par. 8(a)). The prayer for relief asks that Penn be directed to restore to Uris the amounts "lost, dissipated or diverted" from Uris together with interest. Since (a) the allegations are distinct and positive, (b) the relief is prayed for in the complaint and (c) defendant's answer is stricken, I must find that Penn diverted corporate opportunities from Uris to International Service Corporation ("International").

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The record is not at all clear as to Penn's interest in International or what equity, if any, he had in International. Penn did testify, however, on his deposition before trial, that his business activities on behalf of International were for him "personally" and were "never intended to be for the benefit of Uris". (MM 535-36).

Plaintiff introduced into evidence commission payments made to International from five of its accounts, Danvin, Inc., Garrison Sportswear, Botany Brands, Transistor World Corporation and Hazel Bishop. The bulk of these payments were made over a period of approximately two years, and totalled \$215,720. At his deposition before trial Penn testified that International had 31 additional accounts. In her brief plaintiff states that there were 32 such accounts, but she inadvertently includes Crescent Toys of England as one of the accounts. Penn testified that he did not know whether this was an account of International (MM 322). Plaintiff claims that it was difficult, if not impossible, for her to establish the amount of commission payments made by the 31 other companies represented by International because a great many of the companies, particularly those whose offices were located in Europe, were not subject to subpoena.

Herbert Eurman, a certified public accountant, testified for plaintiff. For about 13 or 14 years Eurman audited the accounts of firms engaged in the business of representing manufacturers. He audited "ten or more" of such firms (MM 348). He testified that there "is an accepted practice in the trade, that a minimum commission from a single line should be no less than \$5000 per year" (MM 353). He also testified that the "accepted net profit" on each account would be "no less than one-third of the gross commission" before taxes (MM 354). He had no knowledge as to the

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actual operations of International or Uris (MM 355). No further foundation was laid for the testimony of Eurman except that described above.

Plaintiff's claim for damages comes down to this: From the five accounts with respect to which direct testimony was offered International received \$215,720 in commissions. Each of the other 31 accounts provided International with, at least, \$5,000 commissions each year. Multiply 31 by \$5,000 and multiply that figure by three because the 31 accounts were "represented for at least three years". That figure is \$465,000. Add the \$215,720 to the \$465,000 and divide that figure by one-third (the percentage of net profit), the resulting figure of \$226,906.67 is the total damage suffered by reason of the diversion. Plaintiff then takes 50% of that figure and, in her memorandum, asks for "individual judgment" against Penn for \$113,453.34.*

It is clear that plaintiff is not entitled to "individual judgment". In her complaint plaintiff asks that Penn be directed to account to Uris for the monies diverted from the defendant corporation to him and that is all she is entitled to get.

I will accept the testimony of Eurman that the 31 accounts would have produced minimum commissions of \$5,000 each a year. It seems to me that this is something concerning which Eurman was qualified to testify. He was not simply giving an opinion as to what he considered reasonable, but testifying from experience as to what was customary in the business. This factual basis for his testimony was not controverted by defendant, except by way

* The amount sought in plaintiff's brief is \$115,953.33, but I have reduced this amount because of the inadvertent inclusion of Crescent Toys of England as one of the accounts.

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of argument. Moreover, the record regarding the five accounts with respect to which direct testimony was offered supports Eurman's testimony.

I must reject, however, plaintiff's claim that "these accounts have been represented for at least three years". The record does not support such a statement. The only testimony with respect to these 31 accounts and the length of time they were represented by International appears in the testimony of Penn on his examination before trial which was read into the record before me. This testimony was given in the fall of 1963 and the spring of 1964. I can make no assumption that these accounts are still represented by International. The testimony with respect to each such account and the duration of representation by International is summarized below:

1. Reeves Soundcraft—No period of time is given with respect to representation by International. This account was represented by Uris for "less than a year" and it was through International that Uris secured representation (MM 262), so the period could not have been more than one year.
2. C. A. Reid—"About six months" (MM 266).
3. Forstner Jewelry—"Possibly a period of a year" (MM 268).
4. Ohio Art Company—"A year or so" (MM 269).
5. Roeser—No time given (MM 273).
6. Tozo—No time given (MM 274).
7. Fuyija—"The past year" (MM 275).
8. Aristocrat Leather—No time given (MM 279).
9. Cameo Parkway Record Company—No time given (MM 279).
10. Kalimar—"Possibly for a year" (MM 304).
11. Taron—"Within a year" (MM 306).
12. Tokay—"Maybe a month or so" (MM 306).

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13. Walther Brush Company—No time given (MM 307).
14. Trix—No time given (MM 308).
15. D'Orsay—"Possibly a year" (MM 308).
16. Mepps—No time given (MM 309).
17. Ytrio—"Six months or thereabouts" (MM 312).
18. Uher Co.—International represented Uher prior to Penn's meeting Uher, which was "possibly a year and a half or so ago" (MM 315).
19. Kurbi & Nggeloh of Germany—"I have no idea" (MM 316).
20. Bertram of Germany—"I don't know" (MM 317).
21. Gero of Holland—"About a year and a half, two years" (MM 318).
22. Leppington Cutlery—"About a year and a half, two years" (MM 318).
23. Senedesi of Italy—No time given but Penn visited them about "eight or nine months ago" (MM 319).
24. Rio of Holland—No time given (MM 320).
25. Narang of India—No time given (MM 321).
26. Torchio of Italy—No time given (MM 321).
27. Bianchi of Italy—No time given (MM 321).
28. D.A.M. of Germany—"I don't have any idea" (MM 322).
29. Bryant & Tucker of England—"Possibly the past year, thereabouts" (MM 325).
30. Decorel—"During the past year" (MM 268).
31. Ridgeway Pottery—No time given (MM 274).

Based on the foregoing testimony, I cannot agree with plaintiff that these accounts were represented for at least three years. It seems to me that the most that the record supports is that these accounts were represented by plaintiff for approximately one year and I find that plaintiff

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represented them for an average of one year for the purpose of applying the \$5,000 a year figure testified to by Mr. Eurban.

I have examined each of the checks issued to International from the five accounts with respect to which direct testimony was offered and have made the following compilations of the commissions paid to International for the following years:

<i>Year</i>	<i>Amount</i>
1961	\$ 1,690.00
1962	115,930.91
1963	53,753.39
1964	36,678.81
1965	213.32

Regarding the 31 accounts, I have found that the approximate length of time they were represented by International was one year. As indicated above, the record does not show the exact periods of representation by International. The testimony with respect to such representation was given by Penn on his examination before trial at hearings held in the Fall of 1963 and the Spring of 1964. Because of the question of accrual of interest I have allocated the \$155,000 in commissions which Uris would have earned from representation of these accounts one-half (\$77,500) to 1962 and one-half to 1963. The total of such commissions and the commissions described above for the five accounts is therefore:

<i>Year</i>	<i>Total Commissions</i>
1961	\$ 1,690.00
1962	193,430.91
1963	131,253.39
1964	36,678.81
1965	213.32

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The only evidence available in the record regarding the financial condition of Uris indicates that Uris operated at a loss of \$8,313.01 on gross sales of \$72,313.46, \$50,712.11 of which were commissions, for the six-month period ending June 10, 1963. There is no evidence Uris ever operated at a profit. Therefore, while the $33\frac{1}{3}\%$ net profit figure testified to by Mr. Eurman might be an acceptable measure of damages in the case of an efficiently operated and profitable company, it does not seem appropriate here. Some consideration must be given to the fact that Uris was not being efficiently and economically operated and that, despite the increased revenue it would have received if the commissions paid to International were paid to Uris, it is unlikely that Uris would have realized net profits of $33\frac{1}{3}\%$ on such commissions. It would seem appropriate therefore to discount this profit figure substantially.

It is, of course, impossible to determine with mathematical certainty what this percentage figure representing net profits lost should be. However,

"The rule which precludes the recovery of uncertain damages applies to such as are not the certain result of the wrong, not to those damages which are definitely attributable to the wrong and only uncertain in respect of their amount." *Story Parchment Co. v. Paterson Parchment Co.*, 282 U.S. 555, 562 (1931).

See also, *Bigelow v. RKO Radio Pictures, Inc.*, 327 U. S. 251 (1945). Once the fact of damages is established, the risk of uncertainty as to their amount is upon the wrongdoer, not the plaintiff. *Dabney v. Chase National Bank*, 201 F. 2d 635 (2d Cir. 1953); *President and Directors of Manhattan Co. v. Kelby*, 147 F. 2d 465 (2d Cir. 1944). Where, from the nature of the case, damages cannot be ascertained

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with certainty, it is enough to adduce facts and circumstances which have any tendency to show damages and their probable amount and from which an intelligible and reasonable approximation can be made. *Duane Jones Company v. Burke*, 306 N.Y. 172 (1953); *DeLong Corporation v. Lucas*, 176 F. Supp. 104 (S.D.N.Y. 1959). And certainly difficulty in computing damages with mathematical certainty does not warrant the refusal of any damages whatever for the wrong. *Federal Waste Paper Corp. v. Garment Center Capitol, Inc.*, 185 Misc. 818 (Sup. Ct. N.Y. Co. 1945).

The fact of damage has clearly been established in this case, as has a basis for their measurement, and I am obliged to arrive at a figure. Whether or not Uris would have made an overall profit had it received these commissions in the years in question, it certainly is entitled to some amount representing what it would have netted with respect to these particular accounts. Under all the circumstances, I find I should apply a figure of 15% in computing the net operating profits Uris would have made on these commissions. On this basis, Uris would have received, for the years in question:

<i>Year</i>	<i>Amount</i>
1961	\$ 253.50
1962	29,014.64
1963	19,688.01
1964	5,501.82
1965	32.00

Accordingly, I find that Uris has been damaged in the amounts indicated in the table set forth immediately above and that Penn restore to Uris such monies, with interest computed at the rate of 6% per annum on \$253.50 from

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December 31, 1961, on \$29,014.64 from December 31, 1962, on \$19,688.01 from December 31, 1963, on \$5,501.82 from December 31, 1964, and on \$32.00 from December 31, 1965.

E. Legal Fees.

Plaintiff asks for legal fees in the amount of \$50,000, plus disbursements of approximately \$2,500. Plaintiff is entitled to reasonable counsel fees in an action of this sort, §626(a) of the New York State Business Corporation Law. In his affidavit, Mr. Hershbaum, attorney for plaintiff, claims that the time spent on the preparation of this case not including appearances in court, appearances at the examination of defendant Penn before trial or the appearances before me as Special Master was in excess of 300 hours. His affidavit shows that Mr. Hershbaum had court appearances or appearances on examinations totaling 24 days. Under all the circumstances and considering the result achieved I find that plaintiff is entitled to a reasonable counsel fee of \$20,000.

The Order of Judge MacMahon, dated November 12, 1964, provides that the expenses of and incidental to the proceedings before the Special Master, including his fee, stenographer's fee, and other disbursements, are to be charged to and paid by the plaintiff and all such sums shall be included by plaintiff as taxable costs in her judgment against Penn. In order, therefore, for plaintiff to recover her costs, it will be necessary for her to itemize such costs and expenses rather than to approximate them and to include them as taxable costs in her judgment against plaintiff. With respect to my fee, I have already been paid \$2,500 by plaintiff on account of my services as Special Master. Since defendant Penn will ultimately bear the cost of my fee, I will, immediately after filing this report, meet

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with the attorneys for plaintiff and for Penn and attempt to agree on an amount for the balance of my fee. Absent such agreement, I will make an application to this Court for the reasonable value of my services.

F. In her complaint, plaintiff asks that a trust be imposed upon the assets of all of the companies and enterprises of Penn to the extent of the damages sustained by Uris, that Penn be restrained from paying or causing to be paid any further sums of money to himself from the assets of Uris or from the assets of any of his companies, and that a receiver be appointed "with usual authority conferred upon receivers in such case".

It does seem to me that some restrictions should be placed upon Penn in his operation of Uris pending his compliance with any judgment entered by this Court. I recommend that Penn be prohibited, without the prior written consent of plaintiff or without the prior written approval of this Court from (1) paying to himself either directly or indirectly any salaries, commissions or expenses on any basis or in such amounts which would result in Penn's receiving more income from Uris than he was receiving as of the date of this report, and (2) that plaintiff be restrained from paying any dividends of Uris. I recommend that such prohibitions be enforced until ten (10) days after payment by Penn to Uris of the amounts described in subsections C and D of Section III above. It seems to me that after Penn has restored the above sums to Uris if plaintiff and Penn (each owns 50% of the stock of Uris) find that they cannot agree upon the operation of the business and the constitution of the Board of Directors of Uris plaintiff should pursue any relief to which she may be entitled under the applicable statutes and law with respect

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to the dissolution of the company. In the meantime, she should have some protection that Penn will not be in position to dilute the assets of Uris. Penn must, however, it seems to me, be permitted to withdraw some salary and expenses from Uris if the business of Uris is to continue. To impose upon Uris the costs and expenses which would necessarily be incurred if a receiver were appointed might be more than Uris could stand and continue to operate.

IV. Recommendations

A. On the basis of the foregoing, I recommend that judgment be taken against Penn in favor of Uris in the following amounts:

1. \$3,491.96, with interest at the rate of 6% per annum from June 30, 1963 to the date of restoration by Penn to Uris (III.C.3 *supra*, p. 10).

2. \$15,000.00, with interest computed at the rate of 6% per annum from January 5, 1952 until restoration by Penn to Uris (III.C.4(d) *supra*, p. 11).

3. (a) \$253.50, with interest computed at the rate of 6% per annum from December 31, 1961 until paid;

(b) \$29,014.64, with interest computed at the rate of 6% per annum from December 31, 1962 until paid;

(c) \$19,688.01, with interest computed at the rate of 6% per annum from December 31, 1963 until paid;

(d) \$5,501.82, with interest computed at the rate of 6% per annum from December 31, 1964 until paid;

(e) \$32.00, with interest computed at the rate of 6% per annum from December 31, 1965 until paid.

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B. That plaintiff have judgment against Penn in the amount of \$20,000 for counsel fees.

C. That any judgment should provide that Penn be prohibited without the prior written consent of the plaintiff or without prior approval of the Court from (1) paying to himself either directly or indirectly any salary, commissions or expenses on any basis or in any amounts which would result in Penn's receiving more money from Uris than he was receiving at the date of this report, and (2) from paying any dividends of Uris. I recommend that such prohibitions be in force until ten (10) days after payment by Penn to Uris of the amounts described above.

Respectfully submitted,

PAUL J. QUINN
Special Master

March 29, 1966.

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APPENDIX A

RULINGS RESERVED AT THE HEARINGS

Plaintiff in its brief has requested that I rule in its favor with respect to all matters on which rulings were reserved at the hearings (p. 54 of plaintiff's memorandum), but has made no effort to specify the particular questions on which it is still necessary to rule. Defendants have likewise given no indication in their brief of the matters on which they still desire specific rulings. I have, therefore, studied the record for this purpose and find that I reserved rulings on certain evidentiary and related questions. Since my obligations as Special Master include that of determining the relevance and weight of the evidence offered, any necessary resolution of these questions is encompassed in my findings. For purposes of clarity, however, the questions, with appropriate transcript references, and my disposition thereof are set forth below:

1. Defendants' objections to plaintiff's introduction of Exhibits 1-27C on grounds of "lack of connection". (MM 34, 37, 100).

Overruled.

2. Defendants' motion to strike testimony relating to "advances" made by plaintiff to Penn and/or Uris Sales Corporation as immaterial (MM 365).

Denied.

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3. Plaintiff's objection to defendants introduction of excerpts from Penn's examination before trial except on the question of damages. (MM 345-346).

Sustained.

4. Defendants' request for ruling that no proof has been submitted entitling plaintiff to relief under the allegations of the complaint. (MM 368-369).

Denied.

5. Defendants' motion to strike "an accountant's report" as not the best evidence. (MM 366).

Denied.